



WHERE BUSINESS AND THE ENVIRONMENT CONVERGE



1 Elm Street, Suite 3, Waterbury, VT 05676 tel 802.241.4131 fax 802.244.6894 www.ecsconsult.com

16 July 2014
VT DEC # 2005-3397
ECS Project #08-204262.00

Mr. George Pratt
Bradford Oil Company
P.O. Box 394
Bradford, Vermont 05033

Re: 2014 Groundwater Monitoring Report
Northern Petroleum Bulk Facility
521 Bay Street
St. Johnsbury, Vermont

Dear Mr. Pratt:

Enclosed is the 2014 *Annual Groundwater Monitoring Report* for the Northern Petroleum Bulk Facility, located at 521 Bay Street in St. Johnsbury, Vermont. A copy of this report is also being sent to Mr. Ashley Desmond of the Vermont Department of Environmental Conservation (VTDEC). Please contact us with any comments or questions. We can be reached at (802) 241-4131.

Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Elizabeth K. Erickson
Geologist

Thomas P. Murphy
Senior Scientist

cc: Ashley Desmond, VT DEC

Enclosure

WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

NATIONWIDE COVERAGE   



**NORTHERN PETROLEUM BULK PLANT
2014 ANNUAL GROUNDWATER
MONITORING REPORT**

**NORTHERN PETROLEUM BULK PLANT
521 BAY STREET
LYNDONVILLE, VT**

Prepared for:
**Mr. George Pratt
Bradford Oil Company, Inc.
P.O. Box 394
Bradford, VT 05033**

*Project No. 08-204262.00
SMS No. 2005-3397
July 2014*

Prepared by:
**ECS
1 Elm Street, Suite 3
Waterbury, VT 05676
tel: 802-241-4131
fax: 802-244-6894
www.ecsconsult.com**

A large, stylized green silhouette of a tree is centered on the left side of the page. The tree's canopy is composed of several rounded, overlapping shapes, and its trunk is a simple vertical line. The background behind the tree is a light green circular gradient.

WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 SITE HISTORY.....	2
3.0 CONCEPTUAL SITE MODEL.....	4
3.1 NORTHWESTERN PLUME.....	4
3.2 SOUTHEASTERN PLUME.....	4
4.0 SAMPLING PROCEDURES AND RESULTS	5
4.1 GROUNDWATER ELEVATION AND FLOW DIRECTION	5
4.2 GROUNDWATER SAMPLING AND LABORATORY ANALYSIS.....	5
4.3 LNAPL GAUGING RESULTS	5
4.4 LNAPL RECOVERY	6
5.0 CONCLUSIONS.....	7
6.0 RECOMMENDATIONS	8

FIGURES

Figure 1	Site Location Map
Figure 1a	Area Map
Figure 2	Site Plan
Figure 3	Groundwater Flow Direction Map
Figure 4	Contaminant Distribution Map
Figures 5-34	Time-Series Graphs

TABLES

Table 1	Groundwater Table Elevations – 21 May 2014
Table 2	Groundwater Table Elevations – 5 June 2014
Table 3	Summary of Analytical Results
Table 4	LNAPL Product Thickness
Table 5	Total LNAPL Recovered

APPENDICES

Appendix A	Laboratory Analytical Reports
------------	-------------------------------

1.0 INTRODUCTION

This annual groundwater monitoring report has been prepared by Environmental Compliance Services, Inc. (ECS) on behalf of Bradford Oil Company for the Northern Petroleum Bulk Facility located at 521 Bay Street in St. Johnsbury, Vermont (Figures 1 and 1a). The Vermont Department of Environmental Conservation (VT DEC) has designated the site as hazardous site #2005-3397. Monitoring was performed in accordance with ECS' 20 January 2014 work plan and cost estimate, which was approved by Mr. Ashley Desmond of the VT DEC in a 4 February 2014 email to ECS. The proposed scope of work included groundwater sampling of select monitoring wells. Light non-aqueous phase liquid (LNAPL) removal using passive skimmers has been discontinued.

2.0 SITE HISTORY

The site historically operated as a petroleum bulk fuel storage facility. In April 2010 the aboveground storage tanks (ASTs) were decommissioned. The site currently contains two buildings owned by Bradford Oil Company. A propane company stores propane cylinders at the property. The site is also used to park shuttle buses operated by an adjacent business. A site plan is shown in Figure 2.

The decommissioned bulk fuel storage facility included gasoline, diesel, kerosene and #2 fuel oil stored in ASTs with a total capacity of approximately 130,000 gallons. An earthen bermed enclosure provided secondary containment for the ASTs, and the berm is still present. The base of the tank farm is reportedly composed of compacted clay. Oil from the bulk tanks was piped underground to a loading rack formerly located approximately 40 feet north of the tanks. The ASTs, the loading rack, and underground piping were decommissioned in April 2010 by Calkins Excavating, Inc.

One 500-gallon underground storage tank (UST), used to store No. 2 heating oil for onsite use, is currently located south of the office building. A former 1,000-gallon UST used to store No. 2 fuel oil was reportedly located at the storage garage.

From 1990 to 2010, the site operated as a bulk storage facility. In 1990, the ASTs were reportedly moved to the site from the adjacent property located at 590 Bay Street. The most recent generation of onsite ASTs were originally constructed in 1953 and 1962. For an unknown period prior to 1990, the site was operated as a petroleum bulk storage facility by Menut & Parks. Another petroleum bulk storage operation reportedly preceded the Menut & Parks operation. Aerial photographs dated 1962, 1974, and 1983 illustrate four apparent horizontal bulk storage ASTs located in the northeastern portion of the property, and three apparent vertical bulk storage tanks in the east-center portion of the site (See Figure 2).

An initial site investigation (ISI) was completed by ECS in December 2005. The ISI included a historical review of the site and nearby properties, a site inspection, drilling of 32 soil borings and the subsequent installation of 21 monitoring wells, and a sensitive receptor survey. The ISI concluded that soil and groundwater at the site have been impacted with petroleum-related volatile organic compounds (VOCs) associated with both onsite and offsite sources.

A Corrective Action Feasibility Investigation (CAFI) was completed by ECS in December 2006. ECS recommended that LNAPL removal be conducted with Keck passive hydrocarbon recovery skimmers in the vicinity of the southeastern plume. Additional monitoring wells were recommended to delineate the full extent of LNAPL and facilitate LNAPL recovery. In August 2007, ECS supervised the completion of five additional soil borings and subsequent installation of four monitoring wells (MW-36 through MW-40). Strong petroleum odors were observed in many of the soil borings. ECS also installed five 4-inch diameter extraction wells (EX-1 through EX-5) in the southeastern corner of the site to facilitate LNAPL removal with the use of passive skimmers. The extraction wells were installed in the vicinity of MW-5 and MW-7, where LNAPL was first encountered in 2005.

In April 2010, Calkins Excavating decommissioned the petroleum ASTs at the site, along with underground piping and the loading rack (see Figure 2). Obvious black staining was observed and a diesel fuel odor was detected as contaminated soils were removed from below the concrete pad under the loading rack. Soil headspace photoionization detector (PID) readings were measured up to 364 parts per million (ppm) at four feet below ground surface (bgs) under the former loading rack. Soils with PID readings below 50 ppm were stockpiled and used for backfill material. The final excavation area

measured approximately 31 feet by 33 feet, with a maximum depth of 6 feet bgs. Petroleum-contaminated soil remained in place at the completion of excavation activities at the loading rack area, with PID readings at the base of the excavation and sidewalls ranging from 43 ppm (eastern sidewall) to 205 ppm (base of excavation). Approximately 128 tons of petroleum-impacted soils were removed from the vicinity of the loading rack and transported for thermal treatment to Environmental Soil Management, Inc. (ESMI) of Loudon, New Hampshire.

During the April 2010 excavation, no soils were removed from the bermed area around the former ASTs. Four test pits (TP-1 through TP-4) were excavated to observe the geology and collect PID readings. In general, ECS observed approximately three inches of gravel, underlain by six inches of clay, one foot of sand, and native silty sand at approximately 2 feet bgs. PID readings in the bermed area ranged from 29.2 ppm in the clay unit at TP-1 to 262 ppm in the silty clay at TP-3. ECS and the VT DEC determined that the soils under the loading rack were the more critical “source area” soils contributing to the free-product plume north of the AST farm. The former AST area is clay-lined and will continue to serve as a semi-impervious barrier in the southeastern corner of the property.

Several nearby properties are listed as active or closed hazardous waste sites (Figure 1a). The Lewis Oil site, located adjacent to the Site west of Bay Street, has reportedly served as a bulk oil storage facility for over 50 years. Prior to 1990, fuel was off-loaded by rail car at a rack located approximately 80 feet west (upgradient) of the site. According to a Phase II report conducted for the former Canadian Pacific Railway, approximately 120 cubic yards of petroleum-contaminated soil were excavated and stockpiled on the Lewis Oil site in 1990. According to the VT DEC spill sites list, approximately 200 gallons of #2 fuel oil was released in January 1999 due to a tank overflow. The spills database indicated that Twin State Environmental provided clean up and the spill site was subsequently closed in February 1999. ECS observed a remediation system operating on the former Lewis Oil property during the fall of 2008. The system is being operated by Leggette, Brashears & Graham, Inc.

A lubricating oil business has occupied the former Bradford Oil Bulk Storage/office site for approximately 25 years, which is located north of the site (Figure 1a).

The former Canadian Pacific Railway property has operated as a rail yard facility since the 1850s. The central portion of the rail yard formerly included fueling operations in the 1960s, approximately 600 feet northwest of the site.

3.0 CONCEPTUAL SITE MODEL

The site and portions of adjacent properties to the east and west have been impacted by at least two petroleum sources including #2 fuel oil and gasoline. Contaminant distribution and historical information indicate that the contamination at the facility is from multiple releases, including both onsite and offsite sources. Two contaminant plumes have been identified and are described below. Groundwater in the unconfined surficial aquifer appears to flow generally southeast toward the Passumpsic River.

3.1 NORTHWESTERN PLUME

The northwestern plume is the larger of the two and is defined by LNAPL currently or previously detected in MW-1, MW-17, MW-18, MW-19, MW-22 and MW-28 (See Figure 2). The outer limits are delineated by relatively lower VOC concentrations in groundwater and/or relatively low PID readings in soil borings around the northern, eastern, and southern perimeters. The western, offsite, upgradient extent of this plume, beyond MW-28, has not been defined. The downgradient leading edge of this plume may merge with the southeastern plume. The most eastern downgradient monitoring wells onsite, MW-37 and MW-38, exhibit the highest dissolved-phase contaminant concentrations on the property. The possibility of an offsite investigation was discussed with the VT DEC in 2012.

Data suggest that a release related to the former bulk storage tanks may have contributed to the contamination in this portion of the site, but an offsite source west (upgradient) of MW-28 also is likely. Previously, LNAPL in the upgradient, offsite monitoring well MW-28 was identified by laboratory analysis as gasoline. No. 2 fuel oil was identified in onsite soils above the water table in MW-1, and estimated to be present in MW-2 ECS, MW-17 and MW-18 in soil both above and below the water table. Other oil (which may include lubricating, cutting, and/or silicon oil) was also identified above the water table in MW-2 ECS. No. 2 fuel oil and gasoline were detected in groundwater in these wells. Subsurface soils in this area generally consist of a fine to medium sand upper layer with underlying coarse sand and gravels. In all soil borings, the top of the water table is within the finer sands. PID readings in soil borings indicate that the vertical extent of contamination extends into the underlying coarse sand and gravel, where present. PID readings in soil boring locations in this area generally increased with increasing depth.

3.2 SOUTHEASTERN PLUME

The southeastern plume is defined by LNAPL currently or previously detected in MW-5, MW-7, MW-12, MW-40, EX-2, EX-4, and EX-5. The downgradient limits are delineated by relatively lower VOC concentration in groundwater and/or relatively low PID readings in soil borings. The plume extends approximately 40 feet beyond the Northern Petroleum property line. The upgradient extent of this plume is less obvious, and may merge with the northwestern contaminant plume.

Data suggest that a release related to the recently decommissioned bulk storage AST system may have contributed to the contamination in this portion of the site. No. 2 fuel oil was identified in soils both above and below the water table in MW-5 and MW-12, both of which are located upgradient of MW-7. No. 2 fuel oil was also identified in groundwater in wells in this area. The hydrogeology in this area of the site is similar to that described in the previous section. PID readings in soil borings indicate that the vertical extent of contamination extends into the underlying coarse sand and gravel layer, generally decreasing in concentration with increasing depth.

4.0 SAMPLING PROCEDURES AND RESULTS

4.1 GROUNDWATER ELEVATION AND FLOW DIRECTION

During the 21 May 2014 monitoring event, depth to groundwater was measured only in the wells sampled for laboratory analysis, due to an ECS field oversight. Groundwater elevation data from 21 May 2014 are presented in Table 1. ECS returned to the site on 5 June 2014 to gauge depth to groundwater and depth to LNAPL in all available onsite and offsite monitoring wells and extraction wells, in accordance with the approved scope of work. Groundwater elevation data from 5 June 2014 are presented in Table 2. Groundwater in the unconfined surficial aquifer at the site appeared to flow generally east toward the Passumpsic River, which is consistent with previous data. The groundwater table at the site is relatively flat. The vertical groundwater flow components at the site, and the hydraulic relationship between the shallow unconfined aquifer and the bedrock aquifer, are currently unknown.

The groundwater flow direction map was prepared using the more comprehensive data from 5 June 2014, and is presented as Figure 3. Static water-table elevations were computed for each monitoring well by subtracting the measured depth-to-water readings from the surveyed top-of-casing elevations, which are relative to an arbitrary site datum of 100.00 feet. Groundwater elevations for wells that contained LNAPL were corrected by multiplying the LNAPL thickness by the specific gravity of fuel oil (assumed to be 0.9) and subtracting the result from the measured depth to water.

4.2 GROUNDWATER SAMPLING AND LABORATORY ANALYSIS

Groundwater samples were collected on 21 May 2014 from onsite monitoring wells MW-5, MW-12R, MW-13R, MW-39, and MW-40; and offsite wells MW-2 (existing), MW-7 and MW-8. The samples collected were analyzed for the possible presence of VOCs on the Vermont 8021B list by EPA Method 8260B. Results are presented in Table 3. A contaminant distribution map (Figure 4) was prepared using the groundwater quality data from 21 May 2014 and LNAPL gauging data from 5 June 2014.

Vermont Groundwater Enforcement Standards (VGES) were exceeded for one or more petroleum hydrocarbons in three of the eight sampled monitoring wells. Total BTEX (sum total of benzene, toluene, ethylbenzene, and xylenes) concentrations in the sampled wells ranged from below laboratory reporting limits in several wells, to 3,696 micrograms per liter ($\mu\text{g/L}$) in onsite well MW-39. The benzene concentration in MW-39 at the leading edge of the northwestern contaminant plume was 1,540 $\mu\text{g/L}$, an historic high for this well.

Prior to groundwater sample collection, the monitoring wells were purged of three times their volume with disposable bailers in accordance with ECS protocols. Purge water was discharged directly to the ground in the vicinity of each well. A trip blank and a duplicate sample were collected to ensure that adequate quality assurance/quality control (QA/QC) standards were maintained. All samples were transported under chain-of-custody in an ice-filled cooler to Spectrum Analytical, Inc. of Agawam, Massachusetts. Relative percent difference (RPD) values for the duplicate sample were within the EPA guideline of 30 percent. No VOCs were detected in the trip blank. The laboratory analytical report is presented in Appendix A. Time-series graphs are presented in Figures 5-34.

4.3 LNAPL GAUGING RESULTS

LNAPL thickness was gauged monthly at the site until March 2012 in select monitoring wells and in extraction wells. Current and historical LNAPL thicknesses are tabulated in Table 4. During the 5 June

2014 gauging event, LNAPL was detected in monitoring wells MW-17 at a thickness of 2.28 feet, and in MW-22 at a thickness of 0.95 feet. LNAPL was not detected in the extraction wells.

4.4 LNAPL RECOVERY

Approximately 14.9 gallons of LNAPL have been recovered from site extraction wells and monitoring wells since LNAPL recovery began in late 2007 (Table 5). LNAPL from the extraction well skimmers had been stored in a drum onsite for eventual disposal, along with any recovered LNAPL bailed from monitoring wells. During this 5 June 2014 gauging and removal event, approximately one gallon of LNAPL was recovered from MW-17 and MW-22, which was stored in the onsite drum pending proper disposal.

Keck PRC 3-liter passive skimmers were installed in extraction well EX-5 in December 2007, in EX-4 in March 2008, and in EX-2 in October 2008 to recover LNAPL from the wells. Following the March 2012 event, Mr. Desmond requested that monthly LNAPL gauging and extraction be discontinued. During the May 2012 sampling event, Keck skimmers were emptied and removed from the water table interface. The skimmers were hung directly beneath the monitoring well tops of casings for potential future use.

5.0 CONCLUSIONS

Based on the results described above, ECS concludes the following:

1. LNAPL was detected in two monitoring wells in the northwestern plume area during the June 2014 gauging event, at thicknesses up to 2.28 feet. No LNAPL was detected in the southeastern plume area. Approximately 14.9 gallons of LNAPL has been recovered since 2007.
2. LNAPL has previously been detected in offsite upgradient well MW-28, and identified as gasoline. This suggests an offsite source of contamination may be migrating onto the site.
3. VGES were exceeded for one or more petroleum hydrocarbons in three of the eight monitoring wells sampled.
4. Groundwater from monitoring well MW-39 exhibited historic high trends of dissolved phase benzene, trimethylbenzenes, and naphthalene. This further suggests an offsite gasoline source may be migrating onto the subject property in the northwestern plume area.
5. Groundwater in the unconfined surficial aquifer at the site is relatively flat (less than one percent gradient); however, it appears to flow generally southeast toward the Passumpsic River, which is consistent with previous data.

6.0 RECOMMENDATIONS

On the basis of the results of this investigation and the conclusions stated above the site is not eligible for a Sites Management Activity Completed (SMAC) designation. ECS recommends the following:

1. Annual groundwater sampling and reporting should continue at the site, with the next sampling event scheduled for May 2015.
2. Because recoverable quantities of LNAPL continue to be detected at the site, recovery activities should be reinstated on a quarterly basis.
3. The use of the Keck passive LNAPL skimmers should be considered in the northwestern plume area in the vicinity of MW-17 and MW-22. Keck skimmers are currently not in use, and are stored onsite in extraction wells in the southeastern plume area. This would require the installation of 4-inch diameter extraction wells in the northwestern plume area.
4. ECS recommends reconsidering the installation of additional upgradient monitoring wells, to determine whether an offsite source is contributing to the levels of LNAPL and dissolved phase constituents in the northwestern contaminant plume.

FIGURES

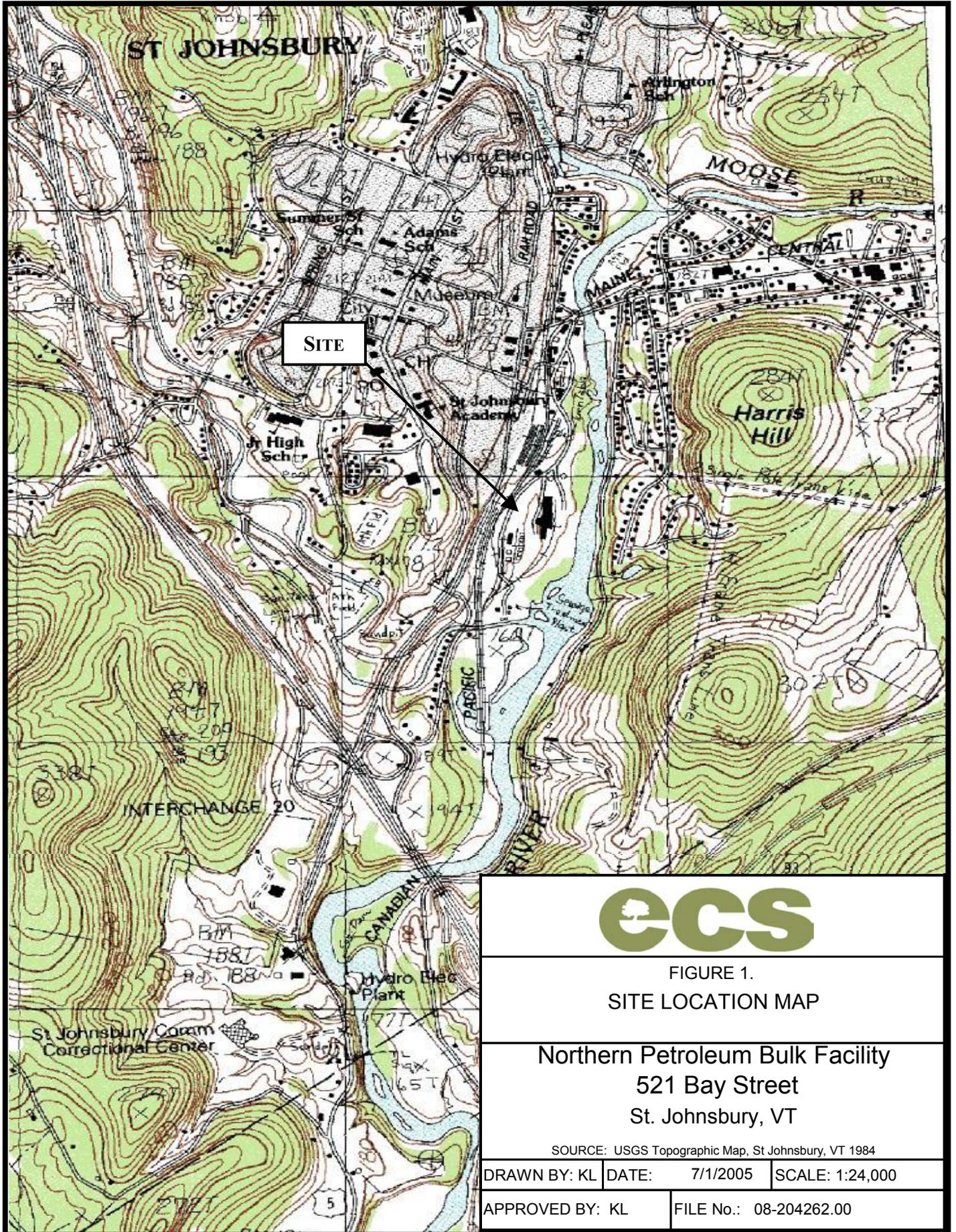
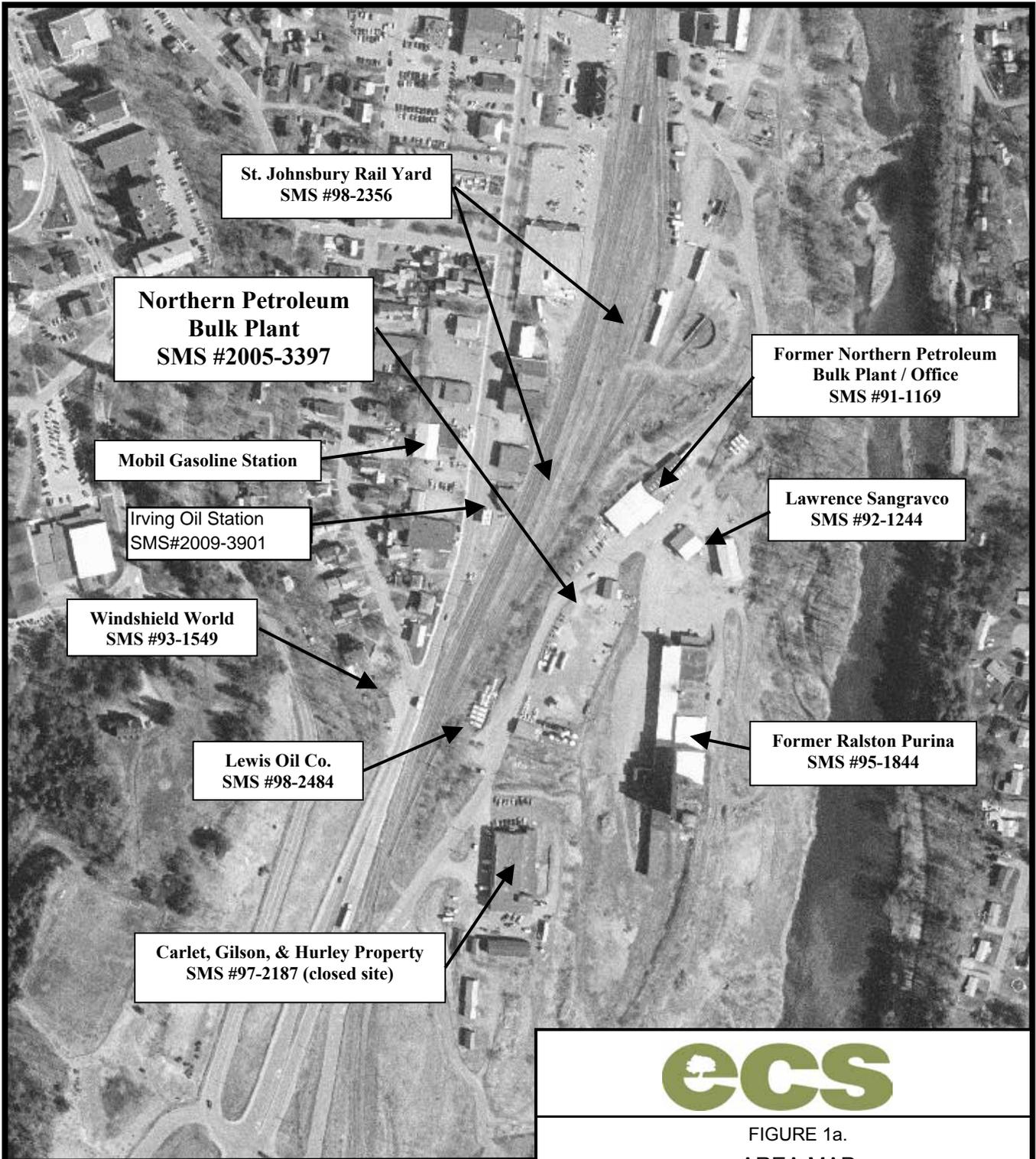


FIGURE 1.
SITE LOCATION MAP

Northern Petroleum Bulk Facility
521 Bay Street
St. Johnsbury, VT

SOURCE: USGS Topographic Map, St. Johnsbury, VT 1984

DRAWN BY: KL	DATE: 7/1/2005	SCALE: 1:24,000
APPROVED BY: KL	FILE No.: 08-204262.00	



St. Johnsbury Rail Yard
SMS #98-2356

Northern Petroleum Bulk Plant
SMS #2005-3397

Mobil Gasoline Station

Irving Oil Station
SMS#2009-3901

Windshield World
SMS #93-1549

Lewis Oil Co.
SMS #98-2484

Carlet, Gilson, & Hurley Property
SMS #97-2187 (closed site)

Former Northern Petroleum Bulk Plant / Office
SMS #91-1169

Lawrence Sangravco
SMS #92-1244

Former Ralston Purina
SMS #95-1844



FIGURE 1a.
AREA MAP

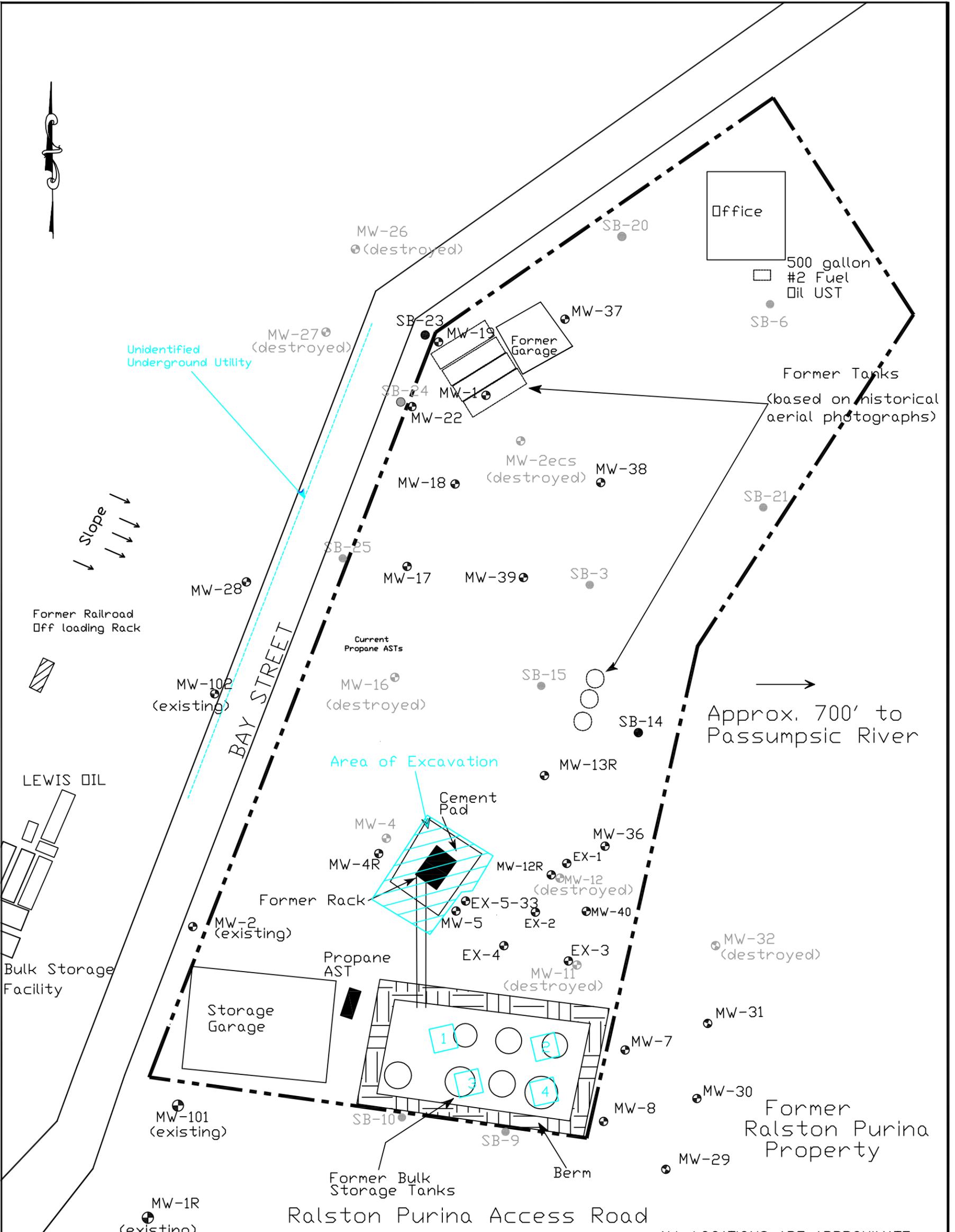
Northern Petroleum Bulk Facility
521 Bay Street
St. Johnsbury, VT

SOURCE: USGS Aerial Photograph, St Johnsbury, VT 1999

DRAWN BY: KL | DATE: 12/1/2005 | SCALE: not to scale

APPROVED BY: KL | FILE No.: 08-204262.00





Office

500 gallon #2 Fuel Oil UST

Former Tanks (based on historical aerial photographs)

Approx. 700' to Passumpsic River

Former Ralston Purina Property

ALL LOCATIONS ARE APPROXIMATE

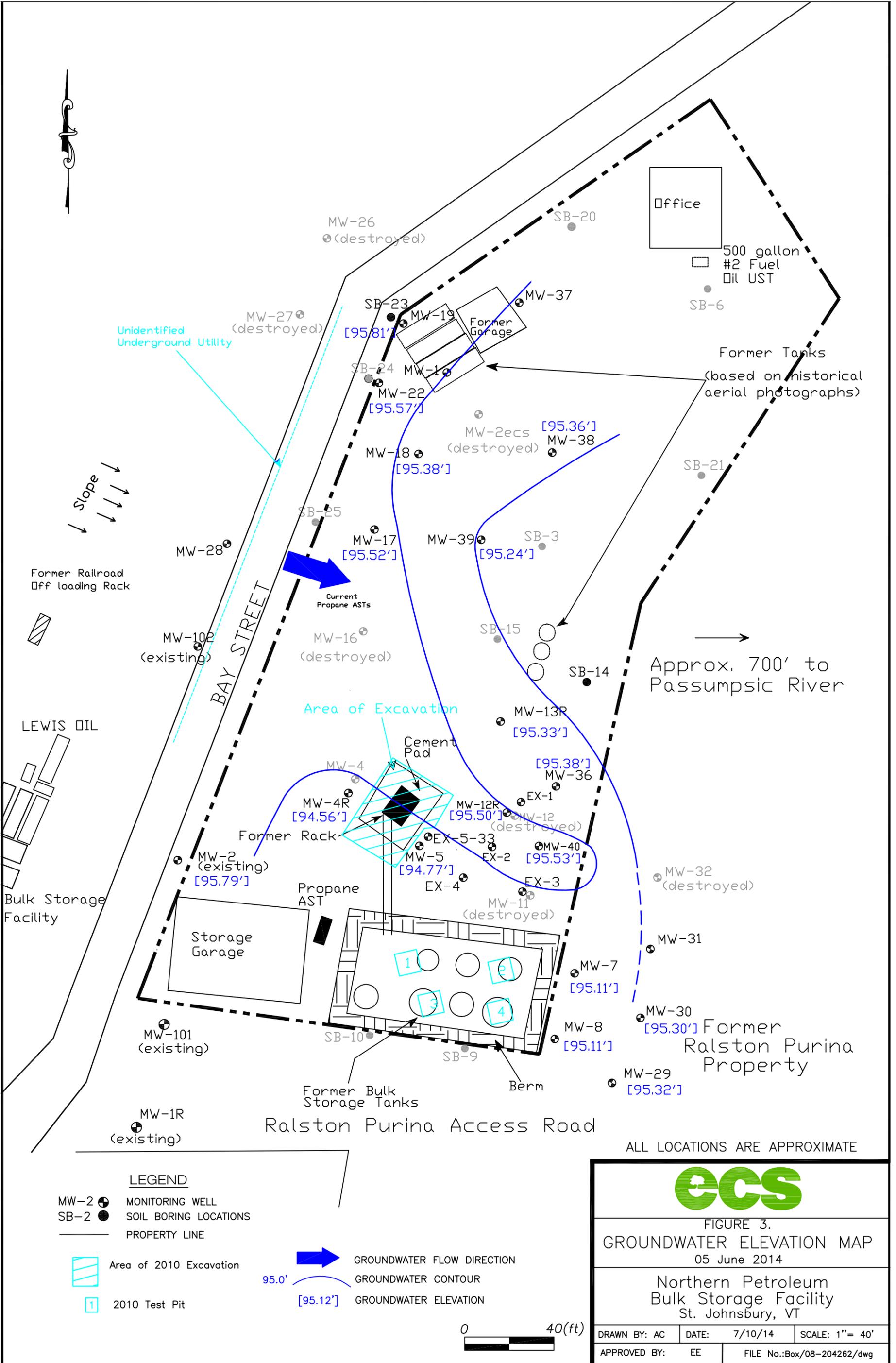
LEGEND

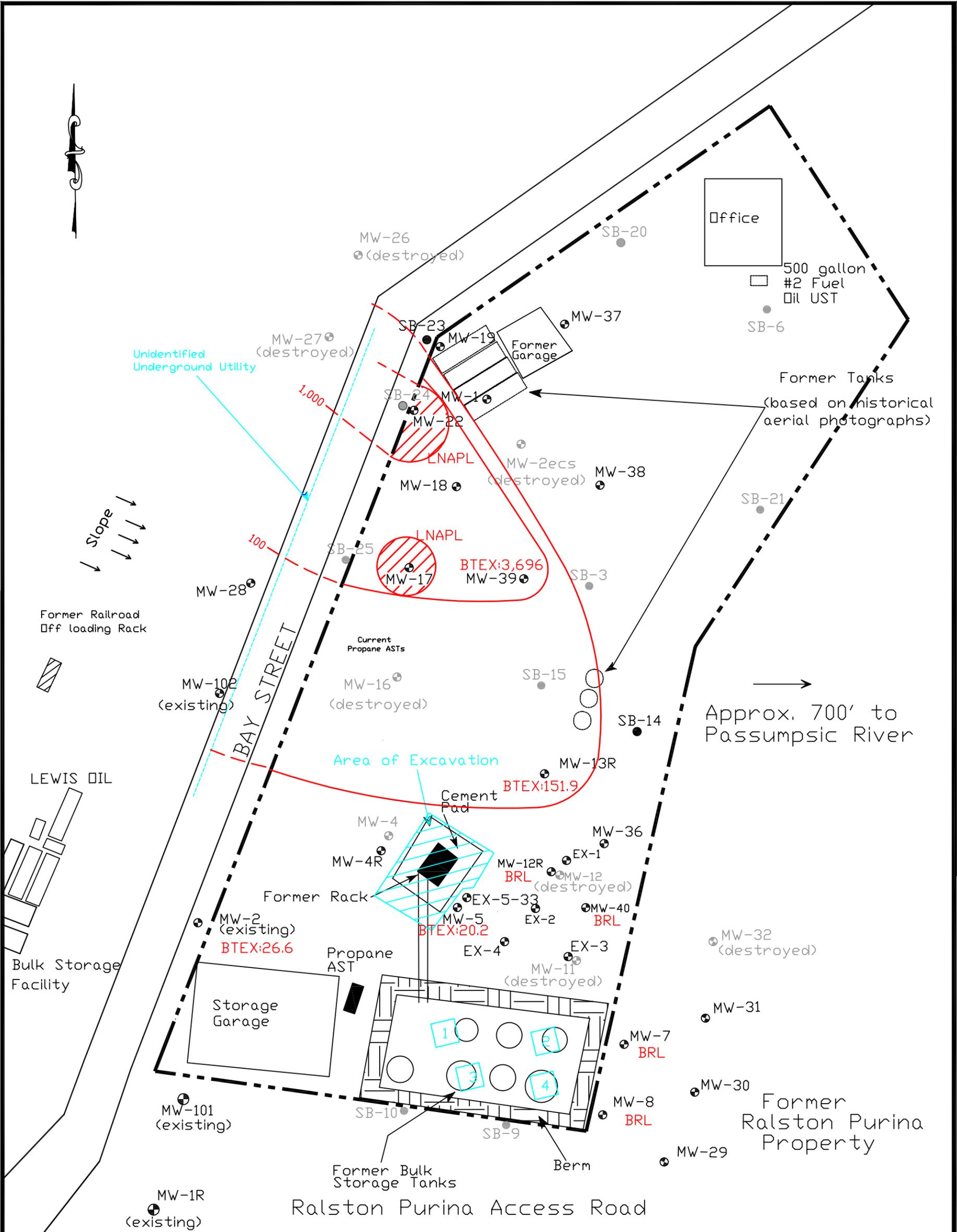
- MW-2 ● MONITORING WELL
- SB-2 ● SOIL BORING LOCATIONS
- PROPERTY LINE
- Area of 2010 Excavation
- 2010 Test Pit



FIGURE 2.
SITE PLAN
 Limited Soil Excavation
 Northern Petroleum
 Bulk Storage Facility
 521 Bay Street
 St. Johnsbury, VT

DRAWN BY: AC	DATE: 7/10/14	SCALE: 1" = 40'
APPROVED BY: EE	FILE No.: Box/204262/dwg	





Unidentified Underground Utility

Office

500 gallon #2 Fuel Oil UST

SB-6

Former Tanks (based on historical aerial photographs)

Approx. 700' to Passumpsic River

Former Railroad Off loading Rack

LEWIS OIL

Bulk Storage Facility

Storage Garage

Former Bulk Storage Tanks

Ralston Purina Access Road

Former Ralston Purina Property

LEGEND

- MW-2 ● MONITORING WELL
- SB-2 ● SOIL BORING LOCATIONS
- PROPERTY LINE
- 100 — BTEX CONCENTRATION CONTOUR (ug/L) (DASHED WHERE INFERRED)
- LNAPL LIGHT NON AQUEOUS PHASE
- BRL BELOW REPORTING LIMIT
- BTEX:10.2 BTEX: TOTAL BENZENE, TOLUENE, ETHYL BENZENE AND XYLENES (ug/L)
- ◌ ESTIMATED EXTENT OF LNAPL
- ◌ Area of 2010 Excavation
- 1 2010 Test Pit

ALL LOCATIONS ARE APPROXIMATE



FIGURE 4.
Contaminant Distribution Map
19 May and 05 June 2014

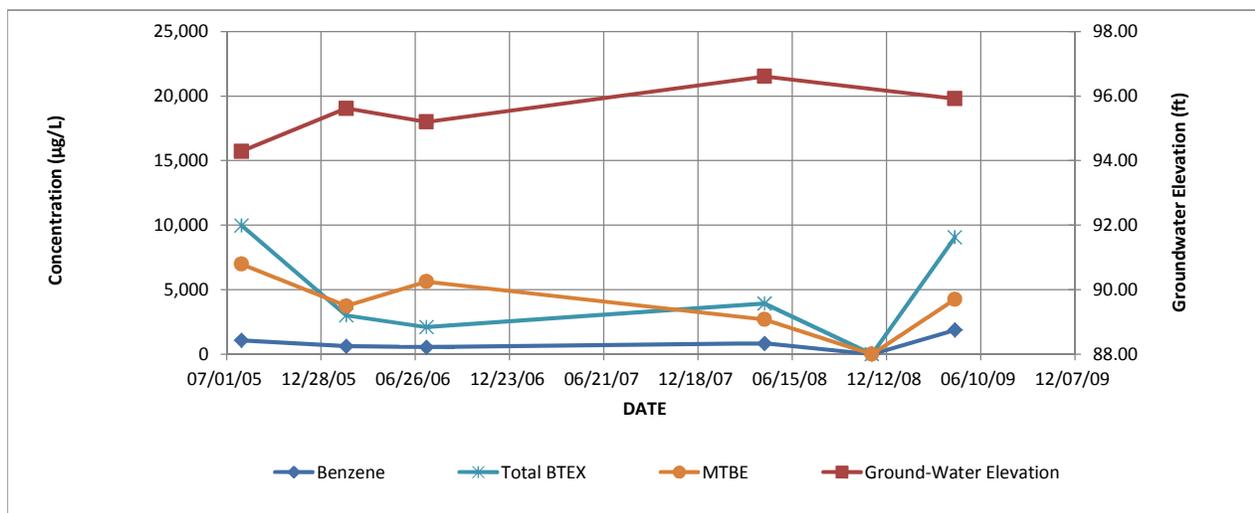
Northern Petroleum
Bulk Storage Facility
St. Johnsbury, VT



DRAWN BY: AC	DATE: 7/10/14	SCALE: 1"= 40'
APPROVED BY: EE	FILE No.:Box/204262/dwg	

**FIGURE 5. MW-1
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	1,060	433	1,560	6,920	9,973	6,980	2,337	632	NA	NA	94.29
02/14/06	608	110	403	1,884	3,005	3,740	681	160	NA	NA	95.62
07/17/06	536	142	263	1,152	2,093	5,620	295.5	90.0	NA	NA	95.20
04/23/08	818	109	492	2,501	3,920	2,690	897	234	BRL<50.0	BRL<50.0	96.61
11/14/08	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
04/22/09	1,870	186	874	6,130	9,060	4,250	1,622	510	BRL<50.0	BRL<50.0	95.92
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VGES	5	1,000	700	10,000	-	40	350	20	0.05	5	-

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

EDB - 1,2-Dibromoethane

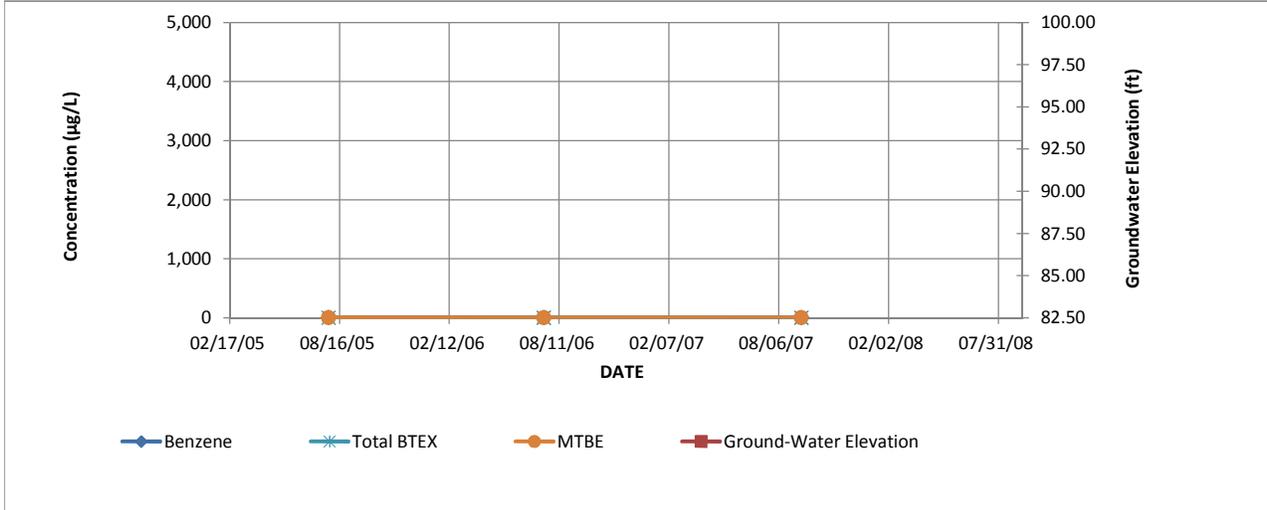
DCA - Dichloroethane

Monitoring well not sampled on 11/14/08 due to the presence of LNAPL

LNAPL - light non-aqueous phase liquid

**FIGURE 6. MW-1R Existing
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



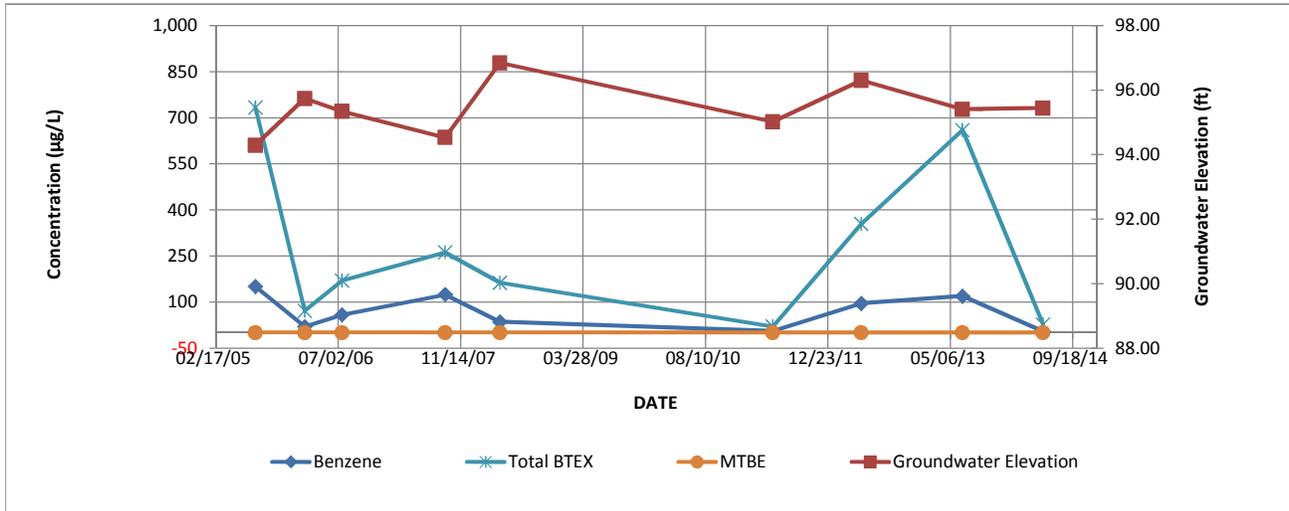
Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	-
07/17/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	-
09/12/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	-
04/22/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	-
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
05/08/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
05/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 NS - Not Sampled NG - Not Gauged
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane

**FIGURE 7. MW-2 Existing
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT

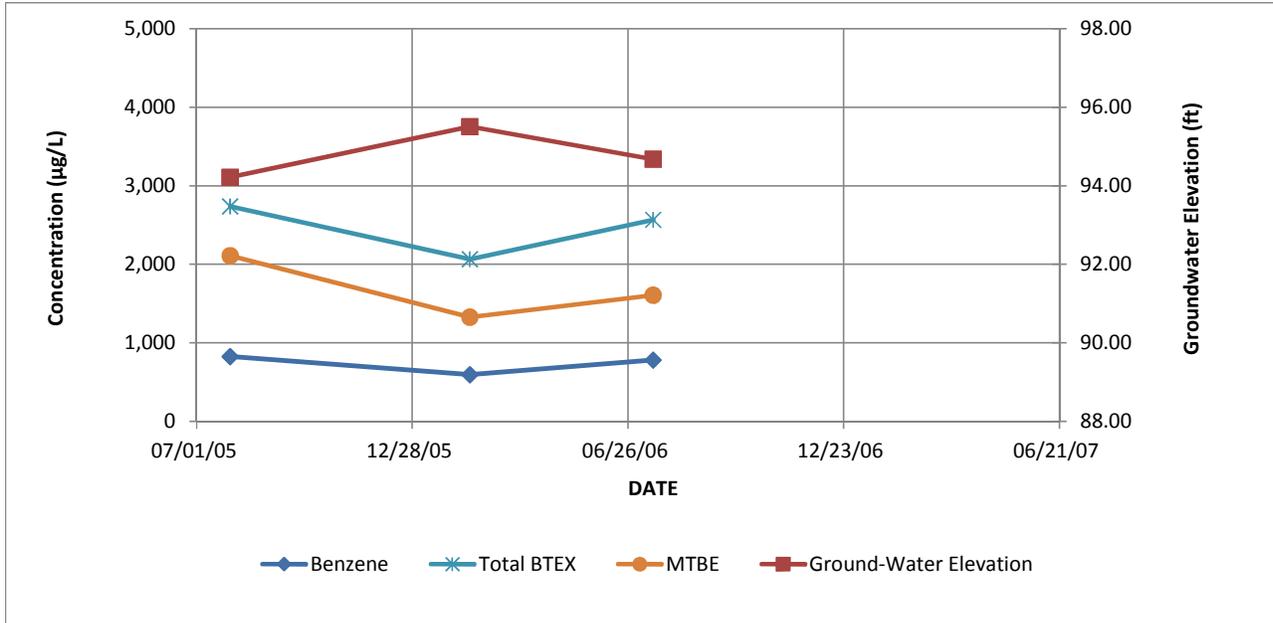


Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Groundwater Elevation
07/29/05	150	25.7	121	437	733.7	BRL<10.0	167.3	50.6	NA	NA	94.29
02/15/06	19.9	4.0	20.7	27.3	71.9	BRL<1.0	18.6	3.3	NA	NA	95.74
07/18/06	58.4	8.4	37.2	65.8	169.8	BRL<1.0	52.0	12.4	NA	NA	95.34
09/12/07	124	12.6	32.3	92.8	261.7	BRL<1.0	44.4	16.0	NA	NA	94.53
04/22/08	35.7	5.8	37.0	84.4	162.9	BRL<1.0	58.5	13.6	BRL<1.0	BRL<1.0	96.84
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.02
05/11/11	5.4	1.1	3.6	10.3	20.4	BRL<1.0	7.2	1.3	BRL<0.5	BRL<1.0	96.30
05/07/12	95.2	15.2	55.8	188.3	354.5	BRL<1.0	105.9	41.2	BRL<5.0	BRL<1.0	95.40
06/24/13	119	23.2	109	408.6	659.8	BRL<5.0	192.4	88.7	BRL<2.5	BRL<5.0	95.44
05/19/14	4.4	1.2	4.3	16.7	26.6	BRL<1.0	4.9	1.4	BRL<0.5	BRL<1.0	96.46
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:
 Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 NS - Not Sampled
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane

**FIGURE 8. MW-2 ECS
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	Ground-Water Elevation
07/29/05	827	93	398	1,420	2,738	2,110	552	304	94.22
02/14/06	596	70.0	380	1,020.5	2,067	1,330	358.5	111	95.51
07/17/06	782	94.5	450	1,241.0	2,567.5	1,610	344.0	132	94.68
Well Destroyed									
VGES	5	1,000	700	10,000	--	40	350	20	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled NG - Not Gauged

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

Well destroyed and not sampled during the September 2007 sampling event.

* Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

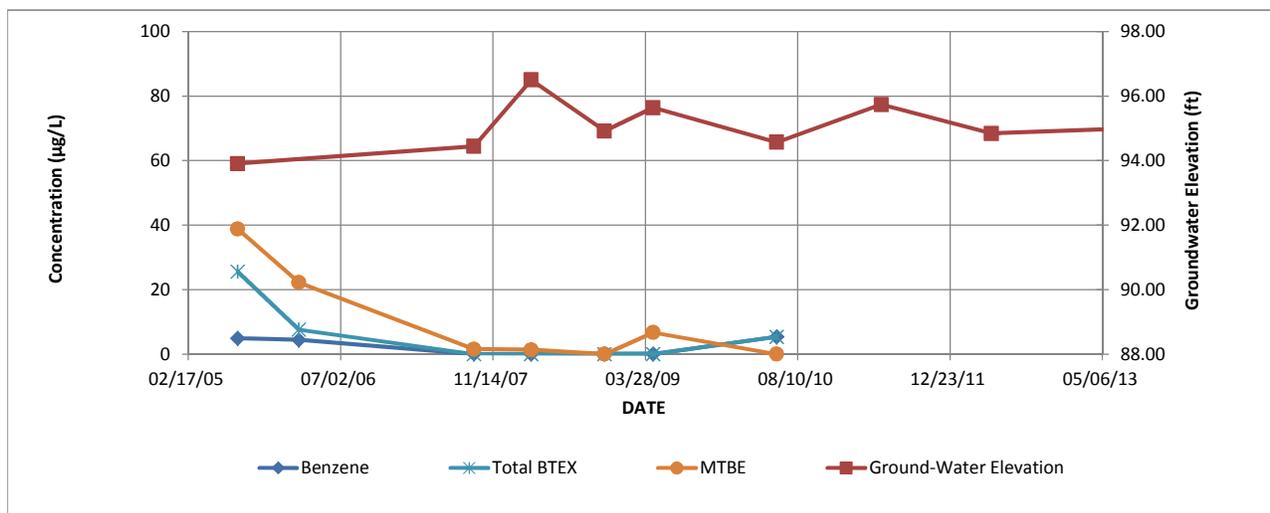
*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 9. MW-4R
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	4.9	4.6	2.0	14.1	25.6	38.8	10.0	1.3	NA	NA	93.90
02/15/06	4.4	BRL<1.0	BRL<1.0	3.2	7.6	22.2	2.5	1.4	NA	NA	NM
09/12/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	1.5	BRL<2.0	BRL<1.0	NA	NA	94.44
03/18/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	1.3	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	96.50
11/14/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	94.92
04/22/09	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	6.7	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	95.64
06/02/10	5.4	BRL<1.0	BRL<1.0	BRL<3.0	5.4	BRL<1.0	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	94.57
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.74
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.84
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.98
06/05/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.56
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

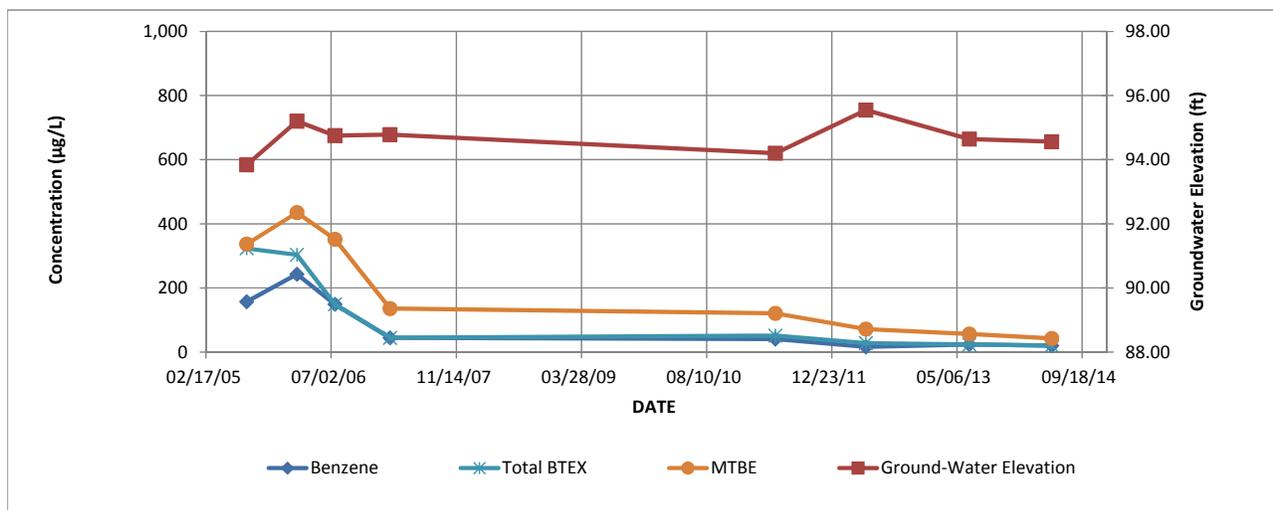
Well destroyed and not sampled on 7/17/06 or 2/22/07; MW-4R replaced on 8/27/07.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 10. MW-5
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



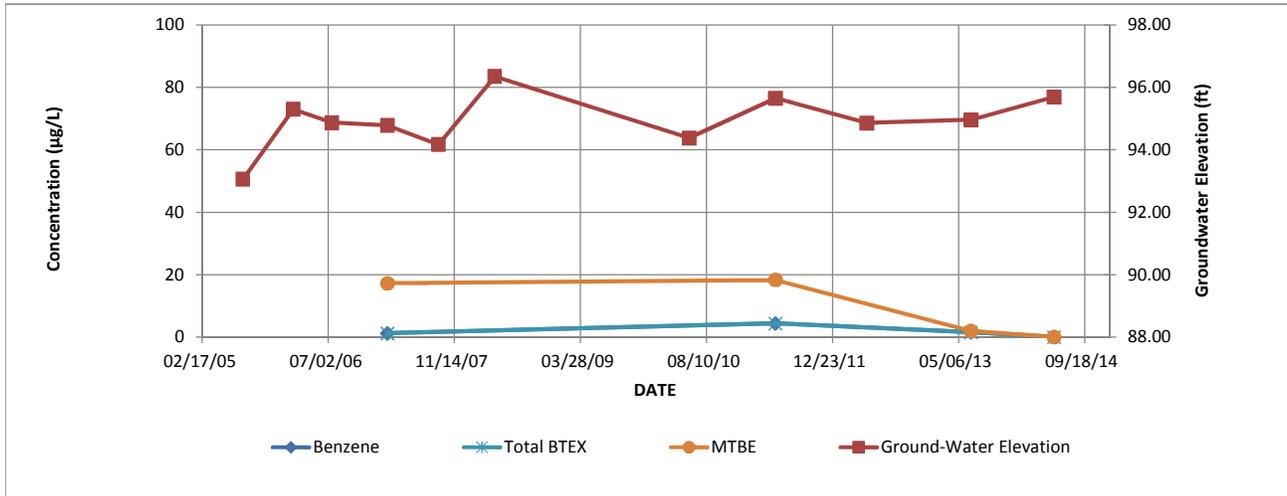
Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	157	BRL<5.0	21.6	145	323.6	337	214.6	93.7	NA	NA	93.84
02/15/06	243	BRL<5.0	10.7	49.7	303.4	435	83.0	26.6	NA	NA	95.20
07/17/06	149	BRL<5.0	BRL<5.0	BRL<15.0	149	352	20.5	12.8	NA	NA	94.75
02/22/07	44.6	BRL<1.0	BRL<1.0	BRL<3.0	44.6	136	8.7	4.9	NA	NA	94.78
04/22/09	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	--
06/02/10	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.20
05/11/11	40.6	BRL<5.0	BRL<5.0	11.2	51.8	121	80.4	BRL<5.0	BRL<2.5	BRL<5.0	95.55
05/07/12	16.4	BRL<5.0	BRL<5.0	12	28.4	71.7	52.4	BRL<5.0	BRL<2.5	BRL<5.0	94.64
06/24/13	23.6	BRL<5.0	BRL<5.0	BRL<15.0	23.6	56.4	12.2	9.2	BRL<2.5	BRL<5.0	94.56
05/19/14	20.2	BRL<1.0	BRL<1.0	BRL<3.0	20.2	42.8	1.8	BRL<1.0	BRL<0.5	BRL<1.0	95.40
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane
 NS- Not Sampled
 LNAPL - light non-aqueous phase liquid

**FIGURE 11. MW-7
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	93.06
02/14/06	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.30
07/17/06	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.87
02/22/07	1.2	BRL<1.0	BRL<1.0	BRL<3.0	1.2	17.2	BRL<2.0	BRL<1.0	NA	NA	94.78
09/12/07	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.17
04/22/08	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	96.35
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.38
05/11/11	4.4	BRL<1.0	BRL<1.0	BRL<3.0	4.4	18.3	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	95.65
05/07/12	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.86
06/24/13	1.5	BRL<1.0	BRL<1.0	BRL<3.0	1.5	1.9	BRL<2.0	BRL<2.0	BRL<0.5	BRL<1.0	94.96
05/19/14	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<2.0	BRL<0.5	BRL<1.0	95.69
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzene

BRL - Below Reporting Limit

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

NS - Not sampled

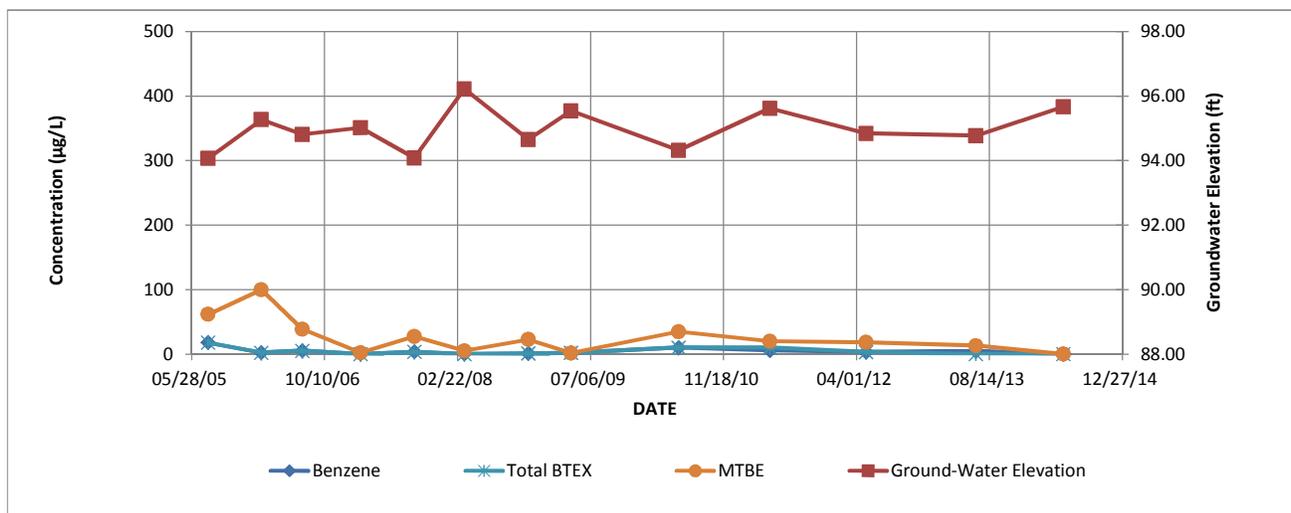
EDB - 1,2-Dibromoethane

DCA - Dichloroethane

LNAPL - light non aqueous phase liquid

**FIGURE 12. MW-8
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT

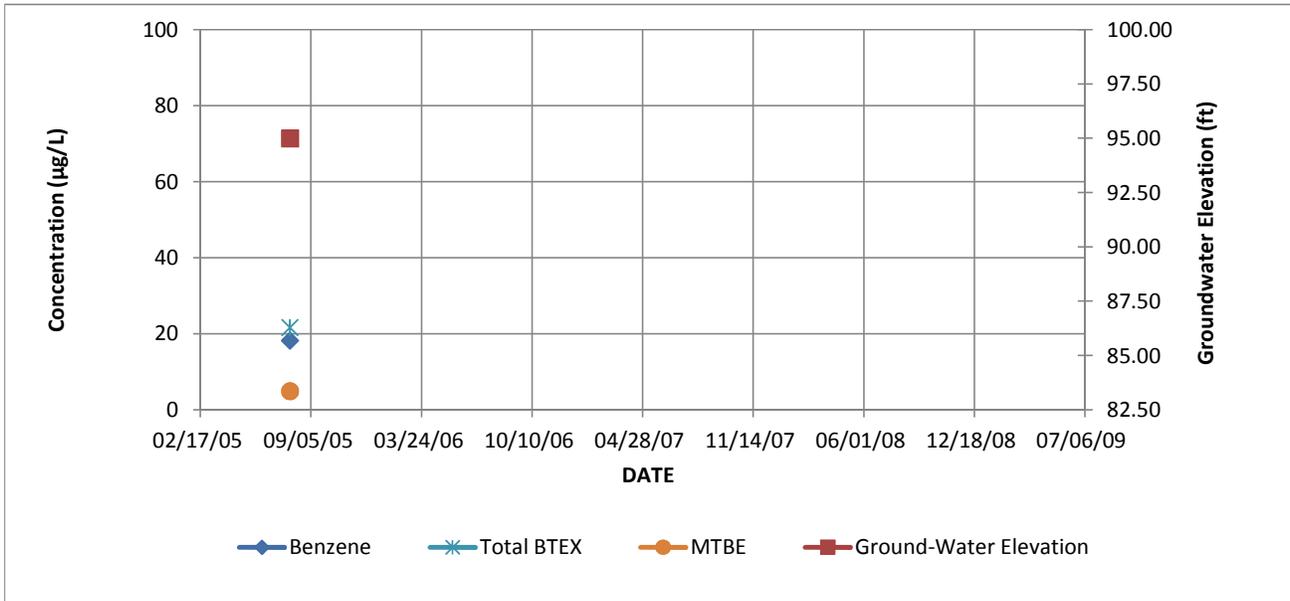


Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	17.7	BRL<1.0	BRL<1.0	BRL<2.0	17.7	61.6	BRL<2.0	BRL<1.0	NA	NA	94.07
02/14/06	2.2	BRL<1.0	BRL<1.0	BRL<2.0	2.2	99.8	BRL<2.0	BRL<1.0	NA	NA	95.27
07/18/06	5.0	BRL<1.0	BRL<1.0	BRL<3.0	5.0	38.6	BRL<2.0	BRL<1.0	NA	NA	94.81
02/22/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	2.2	BRL<2.0	BRL<1.0	NA	NA	95.02
09/12/07	3.4	BRL<1.0	BRL<1.0	BRL<3.0	3.4	27.4	BRL<2	BRL<1.0	BRL<1.0	BRL<1.0	94.08
03/18/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	5.1	BRL<1.0	BRL<1.0	BRL<1.0	BRL<1.0	96.22
11/14/08	1.0	BRL<1.0	BRL<1.0	BRL<3.0	1.0	22.6	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	94.65
04/23/09	2.0	BRL<1.0	BRL<1.0	BRL<3.0	2.0	1.8	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	95.54
06/02/10	10.2	BRL<1.0	BRL<1.0	BRL<3.0	10	34.9	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	94.32
05/11/11	5.6	BRL<1.0	4.4	BRL<3.0	10.0	20	1.3	2.9	BRL<0.5	BRL<1.0	95.62
05/07/12	3.2	BRL<1.0	BRL<1.0	BRL<3.0	3.2	18.2	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	94.84
06/24/13	4.6	BRL<1.0	BRL<1.0	BRL<3.0	BRL	13.1	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	94.77
05/19/14	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<2.0	BRL<0.5	BRL<1.0	95.67
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:
 Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzene
 BRL - Below Reporting Limit
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane

**FIGURE 13. MW-11
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	Ground-Water Elevation
07/29/05	18.2	BRL<1.0	1.3	2.1	21.6	4.9	54.0	BRL<1.0	95.00
VGES	5	1,000	700	10,000	--	40	350	20	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

CL - Could not locate; well not sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

Well destroyed and not sampled on 2/14/06, 7/17/06 or 2/22/07; MW-11R replaced on 8/27/07.

* Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

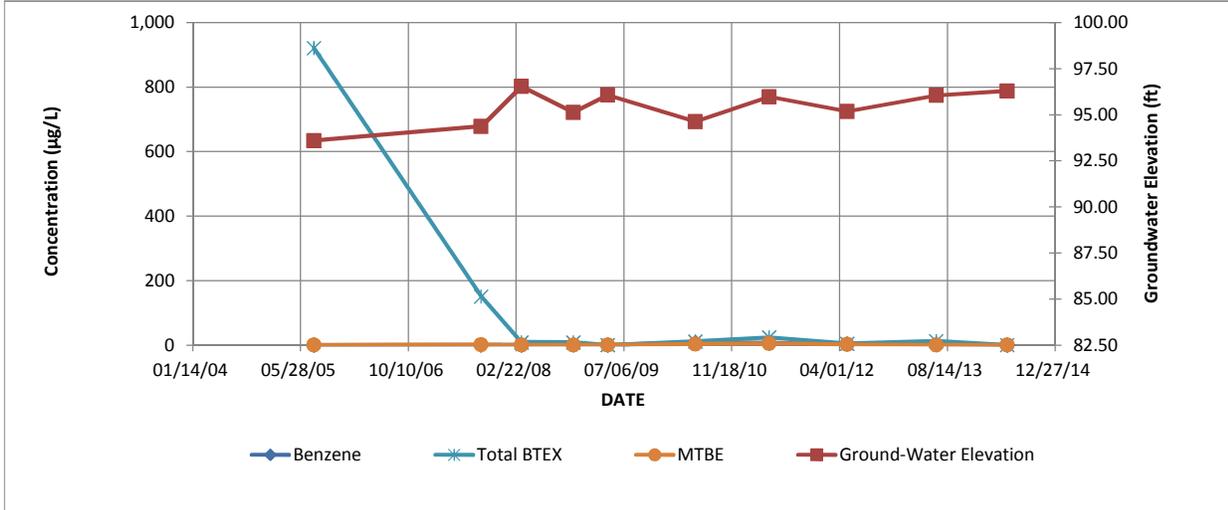
*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 14. MW-12R
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<10.0	BRL<10.0	162	758.7	920.7	BRL<10.0	1,012	438	NA	NA	93.59
09/13/07	BRL<5.0	BRL<5.0	54.8	95.6	150	1.5	BRL<5.0	135	NA	NA	94.37
03/18/08	BRL<1.0	BRL<1.0	2.4	6.0	8.4	BRL<1.0	22.8	5.9	BRL<1.0	BRL<1.0	96.53
11/14/08	1.3	BRL<1.0	BRL<1.0	6.9	8.2	BRL<1.0	32.4	8.2	BRL<1.0	BRL<1.0	95.13
04/22/09	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	1.1	4.0	BRL<1.0	BRL<1.0	96.07
06/02/10	8.1	BRL<1.0	3.2	BRL<3.0	11.3	3.2	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	94.63
05/11/11	6.6	1.0	8	8.0	23.6	5.3	7.0	6.0	BRL<0.5	BRL<1.0	95.97
05/07/12	2.9	BRL<1.0	1.8	BRL<3.0	4.7	1.8	1.7	3.9	BRL<0.5	BRL<1.0	95.18
06/24/13	3.4	BRL<1.0	2.5	6.4	12.3	BRL<1.0	19.4	5.3	BRL<0.5	BRL<1.0	96.05
05/19/14	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	2.1	BRL<1.0	BRL<0.5	BRL<1.0	96.28
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBS - trimethyl benzene

BRL - Below Reporting Limit

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

NS - Not sampled due to free-phase product in well.

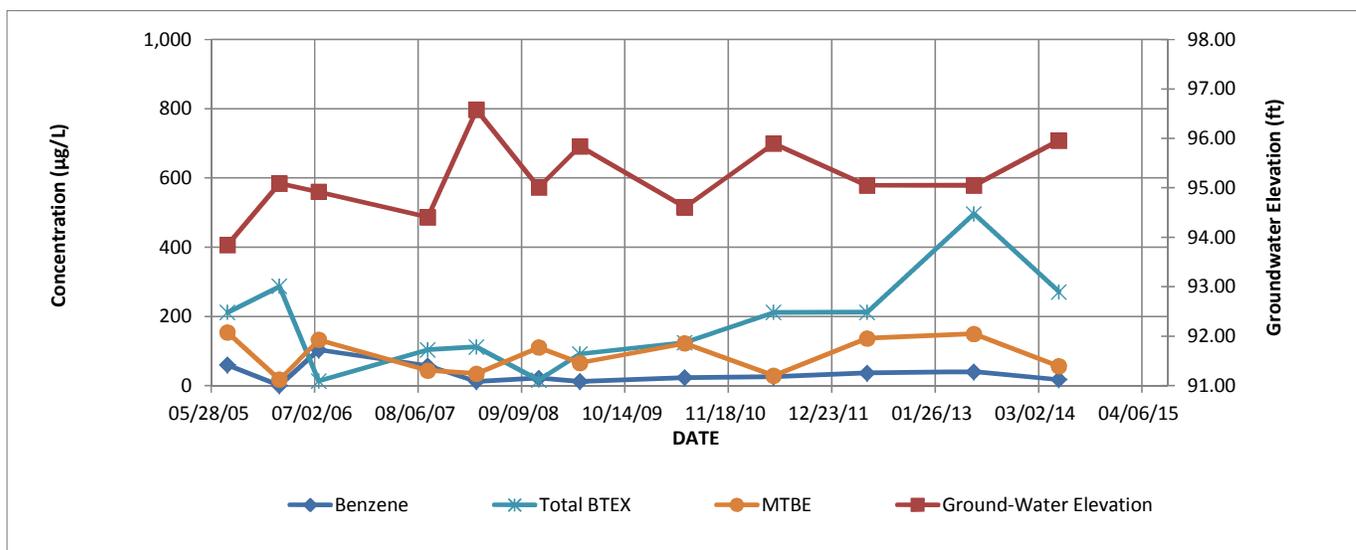
Well destroyed and not sampled on 2/14/06, 7/17/06 or 2/22/07; MW-12R replaced on 8/27/07.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 15. MW-13R
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT

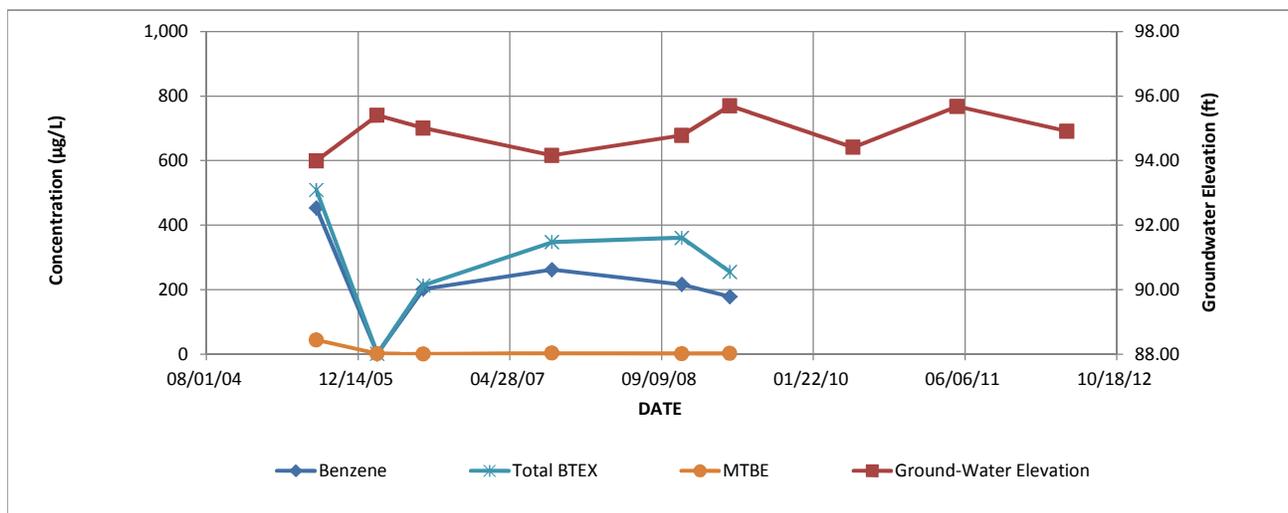


Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	60.2	BRL<5.0	29.0	198.1	287.3	154	448	103	NA	NA	93.85
02/15/06	1.0	BRL<1.0	2.7	10.2	13.9	18.1	39.6	8.0	NA	NA	95.09
07/17/06	104	BRL<1.0	BRL<1.0	BRL<3.0	104	133	1.1	BRL<1.0	NA	NA	94.92
09/12/07	58.0	BRL<2.5	12.6	41.6	112	44.4	108.5	36.8	NA	NA	94.41
03/18/08	12.7	BRL<1.0	1.4	2.4	16.5	35.2	2.9	1.0	BRL<1.0	BRL<1.0	96.58
11/14/08	22.1	3.1	31.8	34.9	91.9	111.0	103.9	11.6	BRL<1.0	BRL<1.0	95.01
04/22/09	12.4	2.8	20.7	89.1	125.0	66.5	160.1	24.9	BRL<1.0	BRL<1.0	95.84
06/02/10	23.6	5.5	37.4	145.3	212	123	241.6	44.6	BRL<2.5	BRL<5.0	94.61
05/11/11	26	7.6	102	360.8	496.4	29.5	374.5	142	BRL<2.5	BRL<5.0	95.90
05/07/12	37.1	BRL<10.0	65.2	169	271	137	208.1	75.4	BRL<5.0	BRL<10.0	95.05
06/24/13	40.4	11.9	68.9	183.7	304.9	150	293.2	123	BRL<2.5	BRL<5.0	95.05
05/19/14	18.2	BRL<5.0	60.6	73.1	151.9	56.6	84.6	31.8	BRL<2.5	BRL<5.0	95.96
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:
 Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 NS - Not Sampled
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 Well destroyed and not sampled on 2/22/07; MW-13R replaced on 8/27/07.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane

**FIGURE 16. MW-16
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	453	5.8	11.1	39.6	509.5	43.8	241.6	224	NA	NA	93.99
02/15/06	1.1	BRL<1.0	BRL<1.0	BRL<2.0	1.1	1.3	BRL<2.0	BRL<1.0	NA	NA	95.40
07/17/06	202	BRL<5.0	BRL<5.0	11.4	213.4	BRL<5.0	66.7	47.2	NA	NA	95.01
09/13/07	262	20.2	10.5	54.3	347	2.8	117.6	81.8	NA	NA	94.16
11/14/08	216	22.6	7.8	113.8	360.2	1.1	166.4	65.8	BRL<1.0	BRL<1.0	94.78
04/22/09	178	16.8	2.0	58.0	254.8	2.7	24.9	9.2	BRL<1.0	BRL<1.0	95.70
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.41
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.68
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.91
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
06/05/14	Well Destroyed										
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

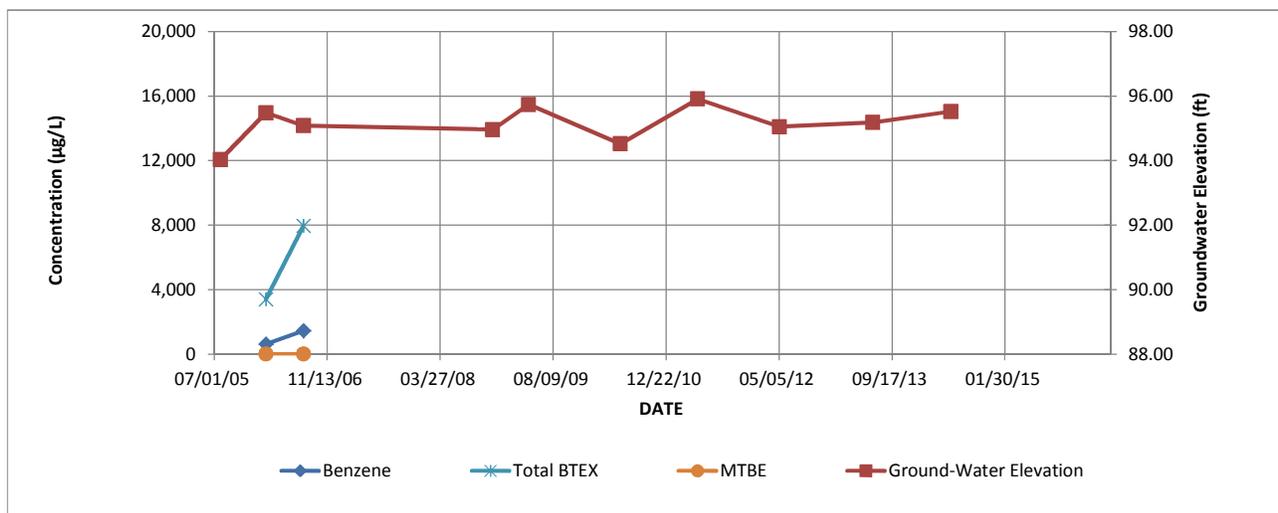
Shaded areas indicate VGES exceedances.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 17. MW-17
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.03
02/15/06	614	543	309	1,940	3,406	BRL<10.0	1,046	188	NA	NA	95.48
07/31/06	1,450	549	2,110	3,852	7,961	14.0	1,061	364	NA	NA	95.08
11/14/08	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.96
04/22/09	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.74
06/02/10	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.52
05/11/11	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.91
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.05
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.18
06/05/14	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.52
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NA - Not Analyzed

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

MW-17 could not be located in 2007/early 2008.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

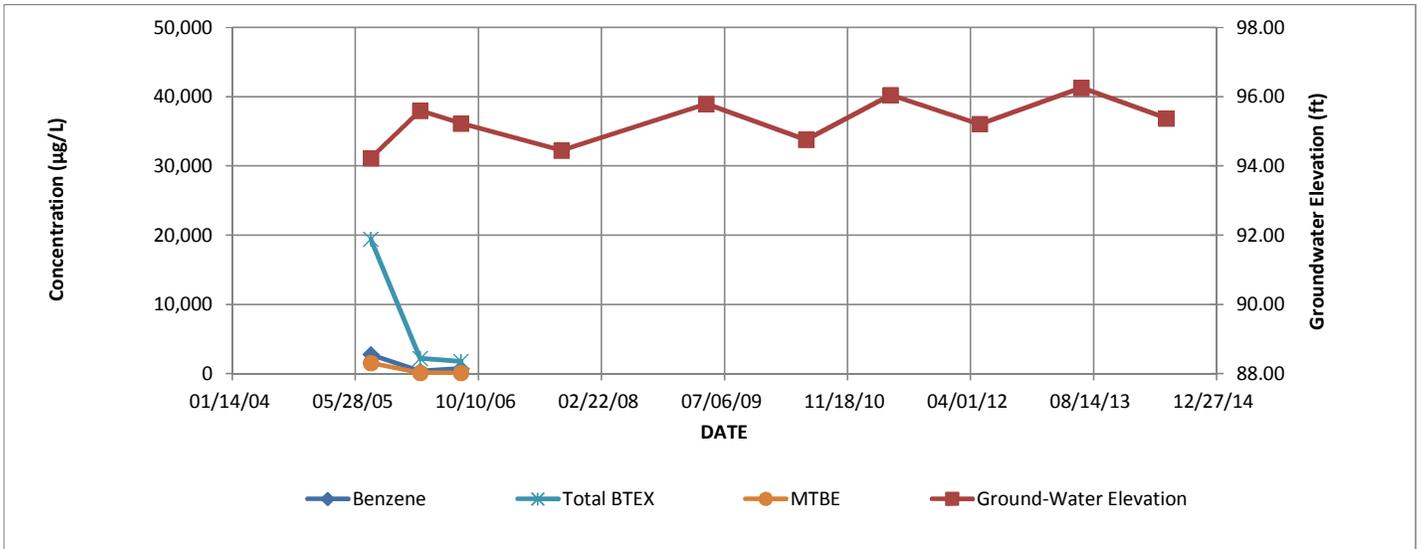
DCA - Dichloroethane

LNAPL -Light non-aqueous phase liquid

NS - not sampled

**FIGURE 18. MW-18
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	2,770	6,290	1,310	9,070	19,440	1,570	4,135	824	NA	NA	94.23
02/15/06	373	601	141	1,098	2,213	130	449	52.4	NA	NA	95.60
07/31/06	728	150	125	768.8	1,772	108	347.6	87.8	NA	NA	95.23
09/12/07	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.45
04/22/09	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.79
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.76
05/11/11	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	96.05
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.21
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	96.26
06/05/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.38
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

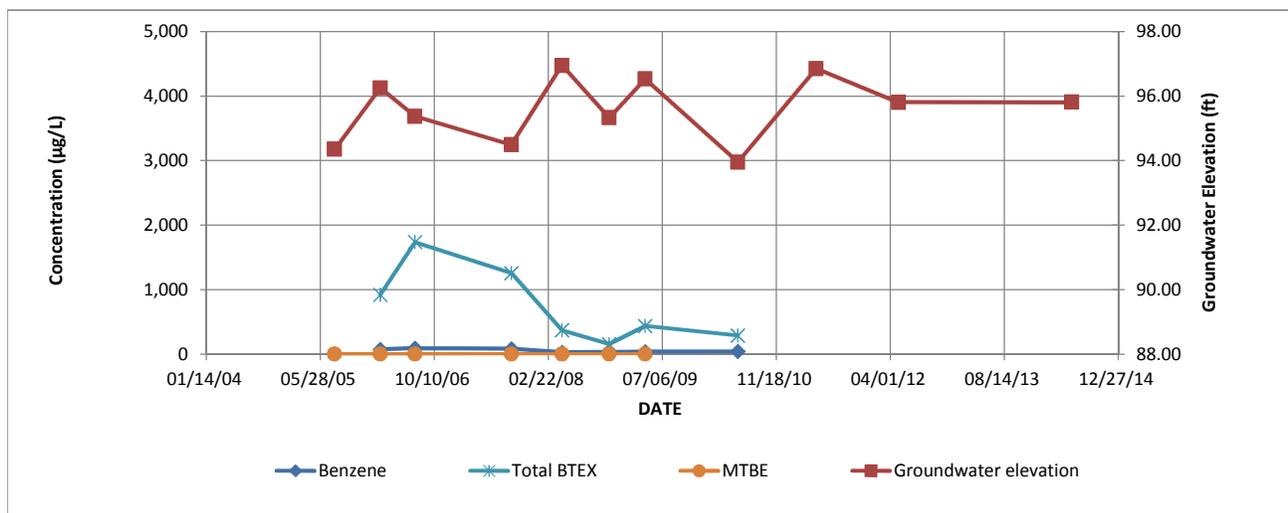
EDB - 1,2-Dibromoethane

DCA - Dichloroethane

LNAPL - light non-aqueous phase liquid

**FIGURE 19. MW-19
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.35
02/15/06	72.9	16.5	179	650.6	919	BRL<5.0	1,037	83.0	NA	NA	96.25
07/17/06	91.6	460	233	951	1,736	BRL<5.0	3,145	84.6	NA	NA	95.37
09/13/07	80.7	161	191	822	1,255	BRL<5.0	245.1	63.8	NA	NA	94.49
04/22/08	27.8	BRL<5.0	120	222.4	370	BRL<5.0	294.8	29.4	BRL<5.0	BRL<5.0	96.95
11/14/08	26.2	9.1	39.3	81.9	156.5	BRL<1.0	136.4	20.6	BRL<1.0	BRL<1.0	95.33
04/22/09	36.8	7.8	137	253.0	434.6	BRL<5.0	324.5	41.6	BRL<5.0	BRL<5.0	96.53
06/02/10	38.8	9.2	66.2	175.7	290	BRL<5.0	209.2	31.1	BRL<2.5	BRL<5.0	93.95
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	96.85
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.80
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
06/05/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.81
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

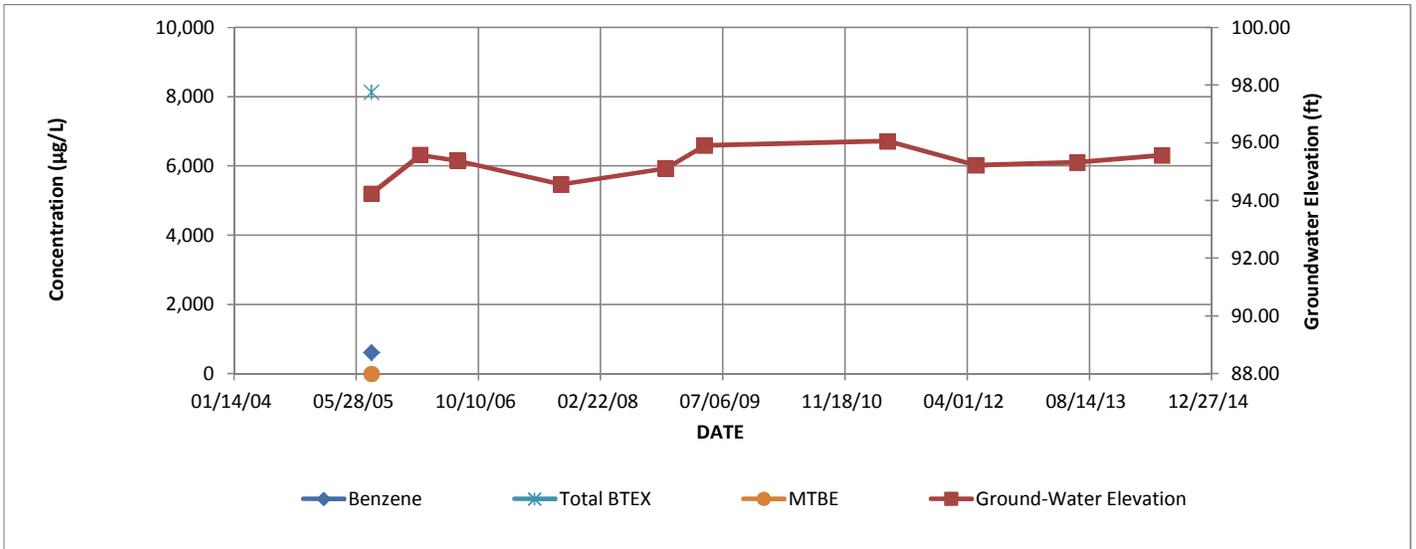
LNAPL - Not sampled due to light non-aqueous phase liquid in well (7/29/05).

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 20. MW-22
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT

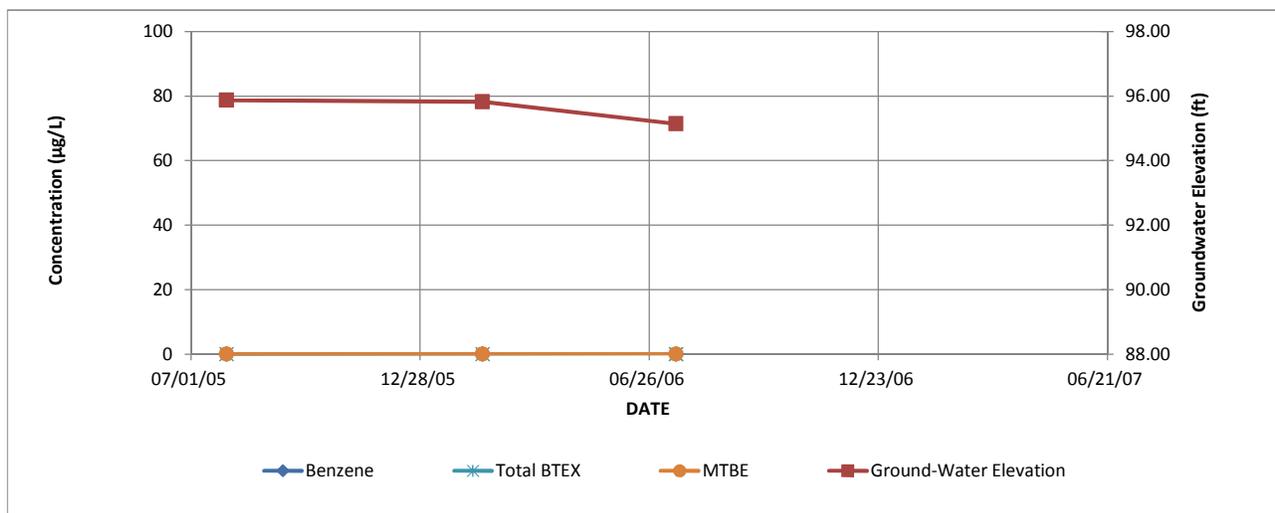


Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	616	1,450	1,050	5,016	8,132	BRL<50	1,343	352	NA	NA	94.24
02/14/06	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	NA	NA	95.58
07/17/06	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	NA	NA	95.38
09/12/07	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	NA	NA	94.56
11/14/08	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.11
04/22/09	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.91
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/11/11	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	96.06
05/07/12	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.23
06/24/13	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.32
06/05/14	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.57
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:
 Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 LNAPL - Not sampled due to light non-aqueous phase liquid in well
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane
 NS - not sampled
 Well not sampled 6/2/10 - inaccessible due to tanks over well

**FIGURE 21. MW-26
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBS	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<5.0	NA	NA	95.87
02/15/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	95.82
07/17/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	95.14
Well Destroyed											
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBS - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

Well determined to be destroyed during the September 2007 sampling event.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

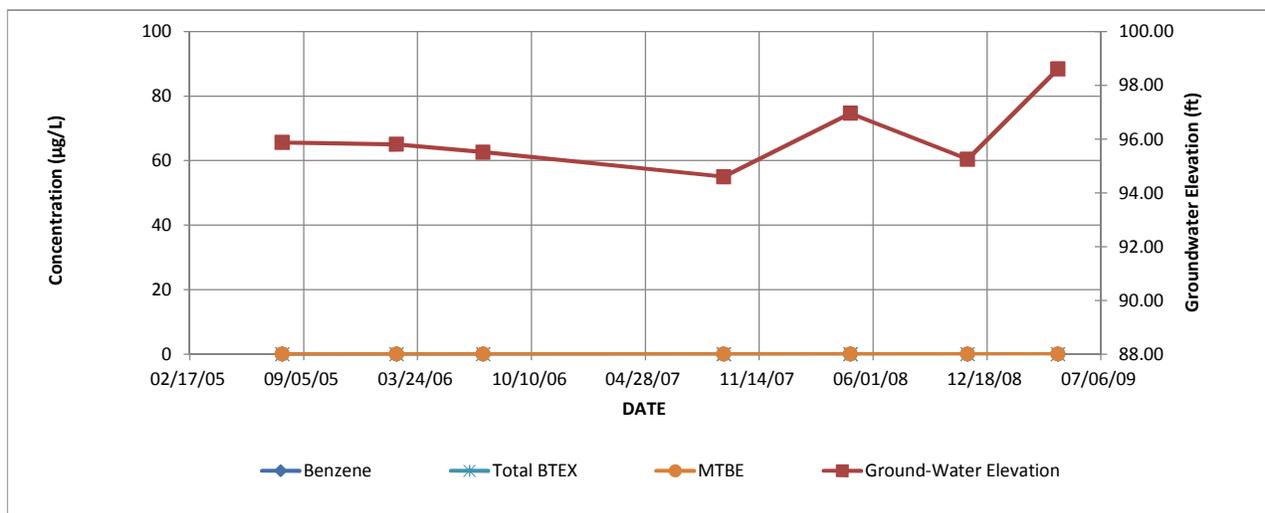
*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 22. MW-27
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<5.0	NA	NA	95.87
02/15/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	95.80
07/17/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	95.51
09/13/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2	BRL<1.0	NA	NA	94.60
04/22/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2	BRL<1.0	BRL<1.0	BRL<1.0	96.96
11/14/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	95.25
04/22/09	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	98.61
Well Destroyed											
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

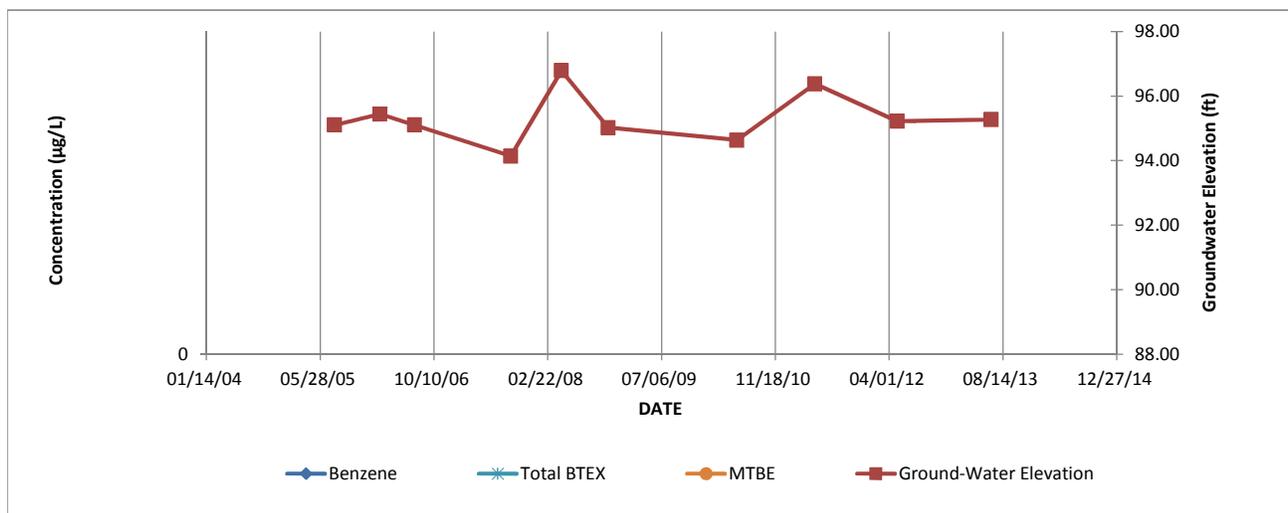
*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 23. MW-28
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.10
02/14/06	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.44
07/17/06	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.10
09/12/07	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	94.14
04/22/08	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	96.79
11/14/08	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.02
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.63
05/11/11	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	96.38
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.22
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.27
05/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMB - trimethyl benzene

BRL - Below Reporting Limit

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

LNAPL - Not sampled due to light non-aqueous phase liquid in well

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

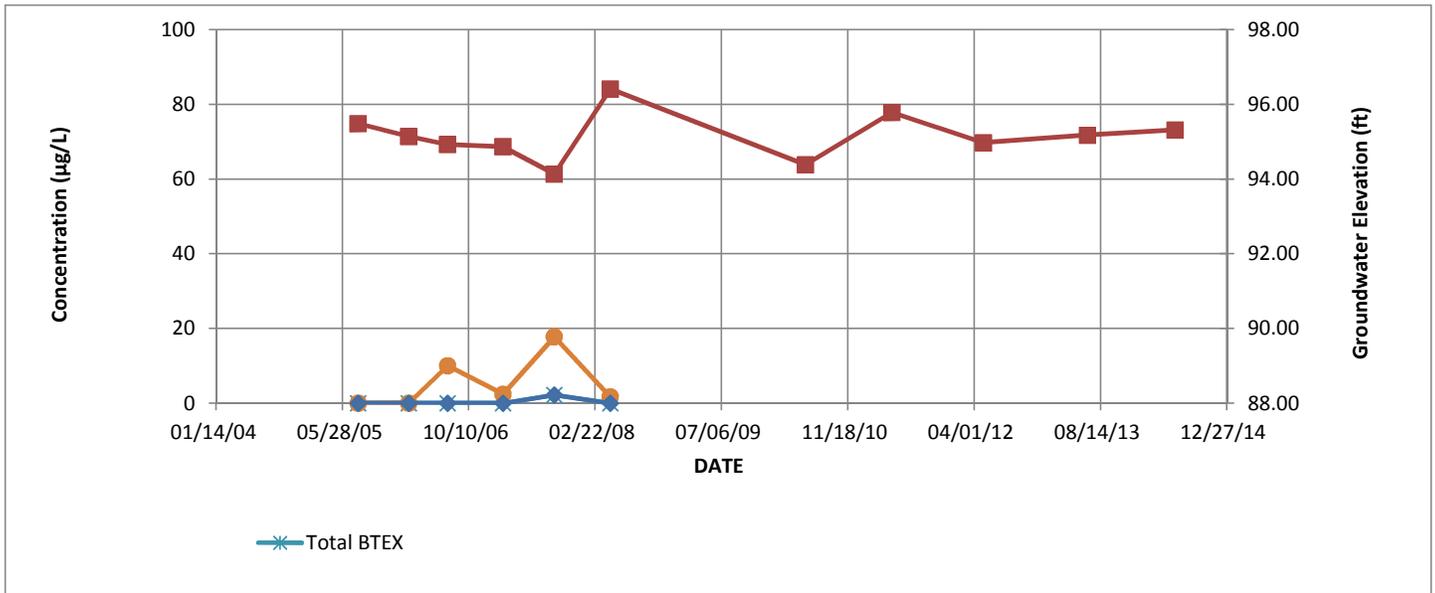
EDB - 1,2-Dibromoethane

DCA - Dichloroethane

NS - Not Sampled

**FIGURE 24. MW-29
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT

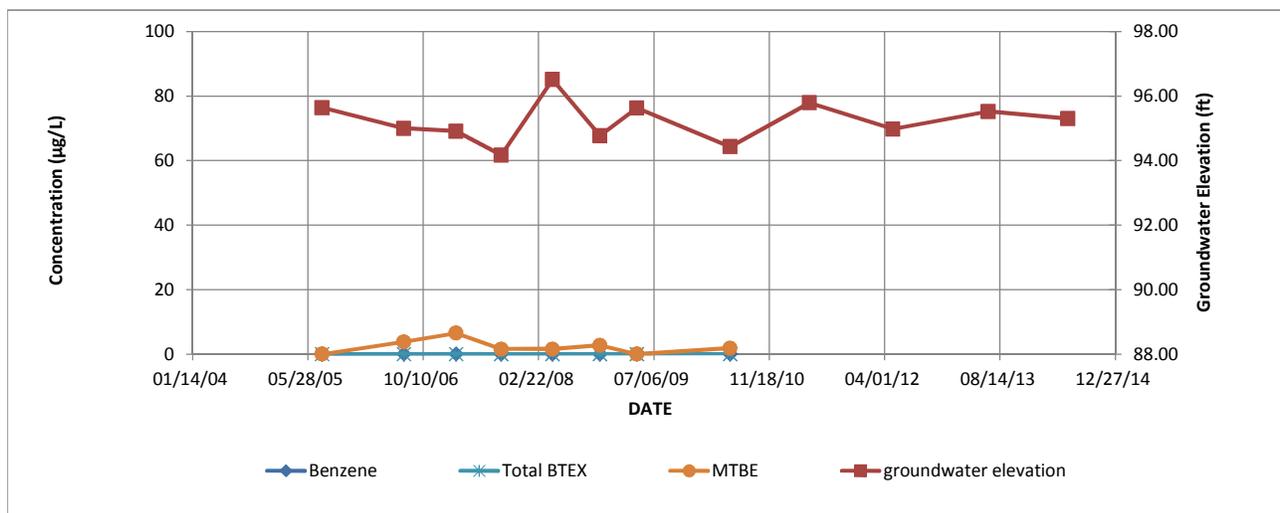


Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<5.0	NA	NA	95.49
02/14/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	95.15
07/18/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	10.0	BRL<2.0	BRL<1.0	NA	NA	94.93
02/22/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	2.4	BRL<2.0	BRL<1.0	NA	NA	94.87
09/13/07	2.2	BRL<1.0	BRL<1.0	BRL<3.0	2.2	17.8	BRL<2.0	BRL<1.0	NA	NA	94.14
04/22/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	1.7	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	96.42
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.39
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.79
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.98
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.18
06/05/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.32
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:
 Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane

**FIGURE 25. MW- 30
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	3.1	2.2	NA	NA	95.64
07/18/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	3.8	BRL<2.0	BRL<1.0	NA	NA	95.00
03/01/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	6.5	BRL<2.0	BRL<1.0	NA	NA	94.91
09/13/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	1.5	BRL<2.0	BRL<1.0	NA	NA	94.17
04/22/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	1.5	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	96.51
11/14/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	2.7	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	94.77
04/23/09	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	95.63
06/02/10	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	1.8	BRL<2.0	1.2	BRL<0.5	BRL<1.0	94.43
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.79
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.98
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.52
06/05/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.30
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

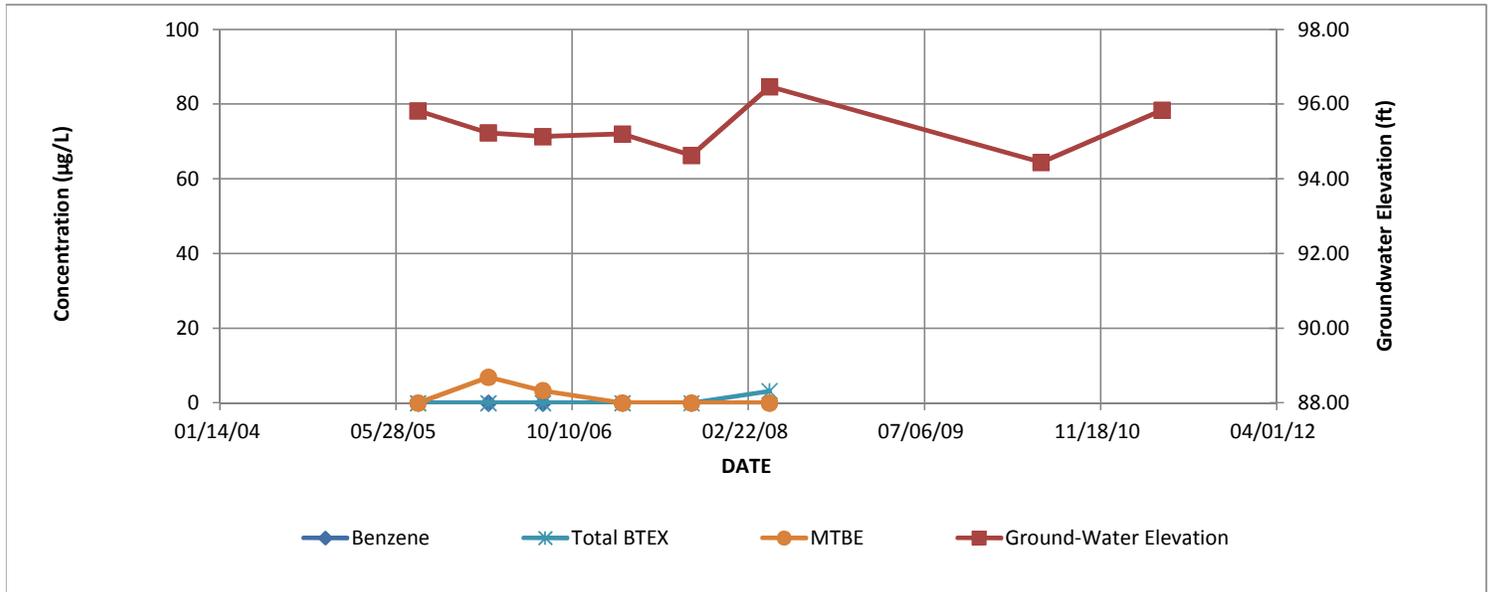
Shaded areas indicate VGES exceedances.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 26. MW- 31
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT

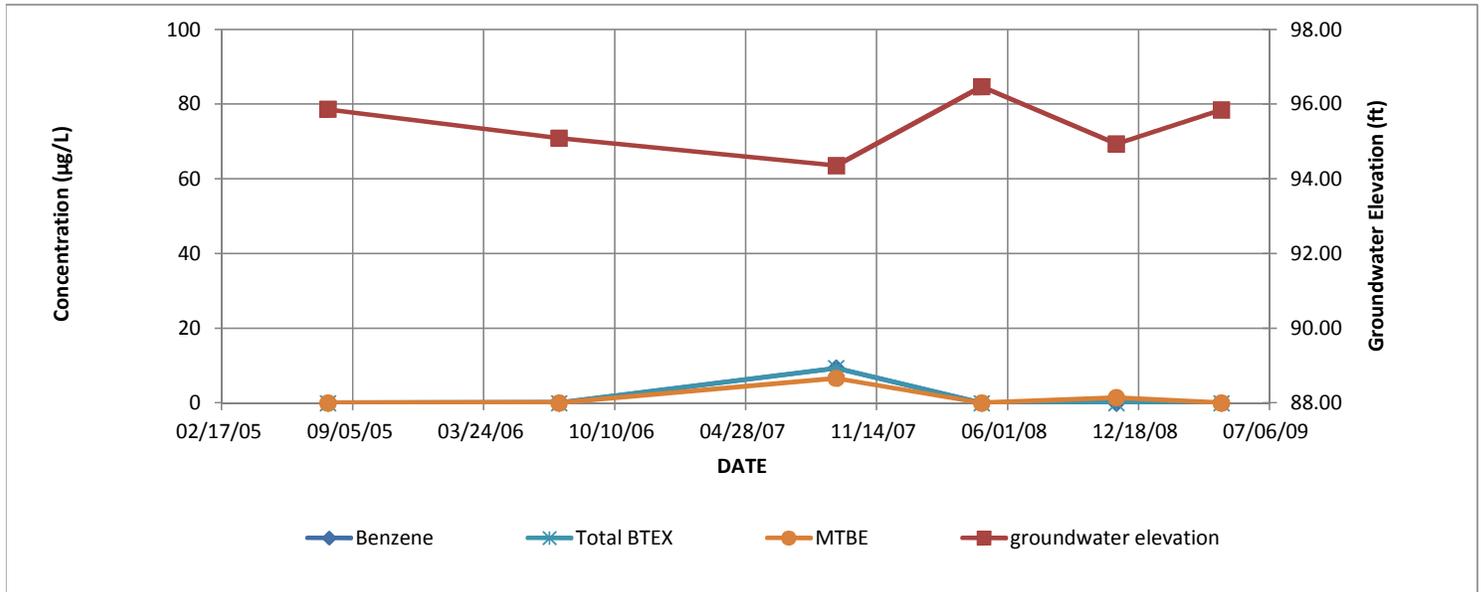


Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<5.0	NA	NA	95.82
02/14/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	6.9	BRL<2.0	BRL<1.0	NA	NA	95.23
07/18/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	3.3	BRL<2.0	BRL<1.0	NA	NA	95.13
03/01/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	95.20
09/13/07	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2	BRL<1.0	NA	NA	94.63
04/22/08	BRL<1.0	BRL<1.0	BRL<1.0	3.2	3.2	BRL<1.0	5.0	2.6	BRL<1.0	BRL<1.0	96.47
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.44
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.84
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.10
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
05/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:
 Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane

**FIGURE 27. MW- 32
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<5.0	NA	NA	95.86
07/17/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	95.09
09/13/07	9.3	BRL<1.0	BRL<1.0	BRL<3.0	9.3	6.6	BRL<2	BRL<1.0	NA	NA	94.36
04/22/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	96.47
11/14/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	1.4	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	94.94
04/23/09	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	95.85
Well Destroyed											
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

Well could not be located on 2/14/06 and 2/22/07; likely due to snowpack

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

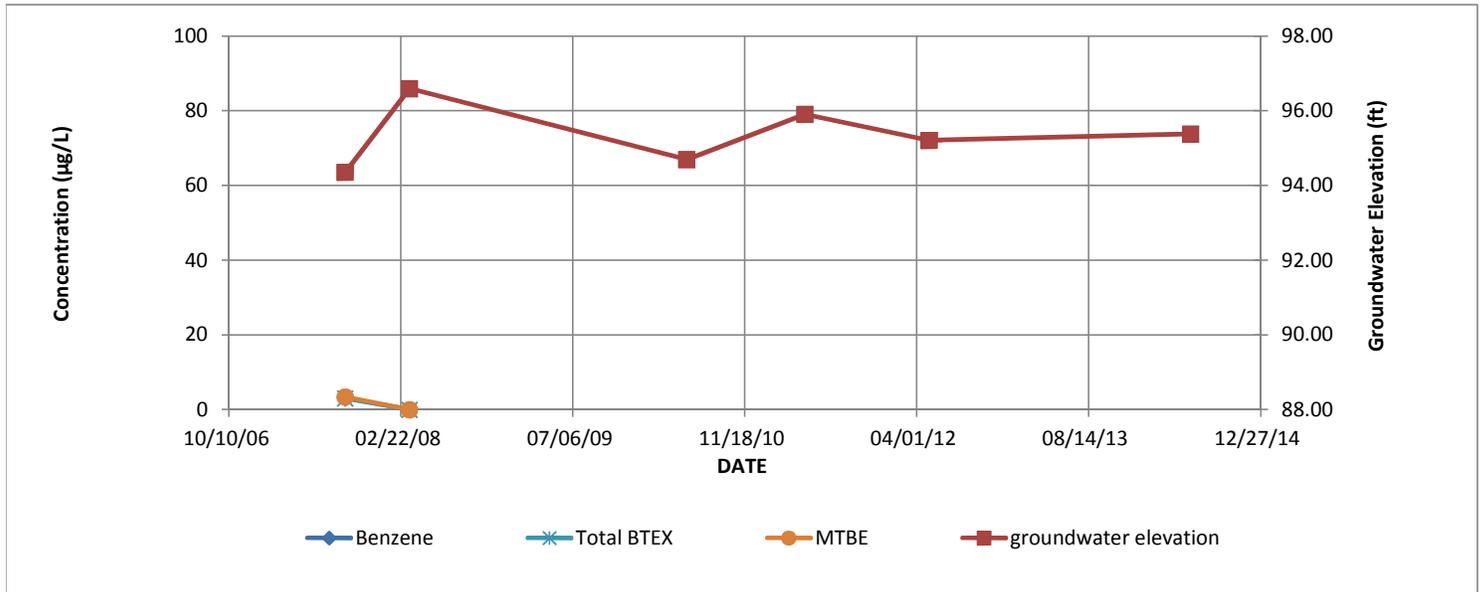
*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 28. MW- 36
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	12 DCA	Ground-Water Elevation
09/13/07	3.2	BRL<1.0	BRL<1.0	BRL<3.0	3.0	3.4	10.2	BRL<1.0	NA	NA	94.36
03/18/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<1.0	BRL<1.0	BRL<1.0	BRL<1.0	96.60
06/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	94.70
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.91
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.21
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
06/05/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.38
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

Well could not be located on 2/14/06 and 2/22/07; likely due to snowpack

VGES - Vermont Groundwater Enforcement Standards

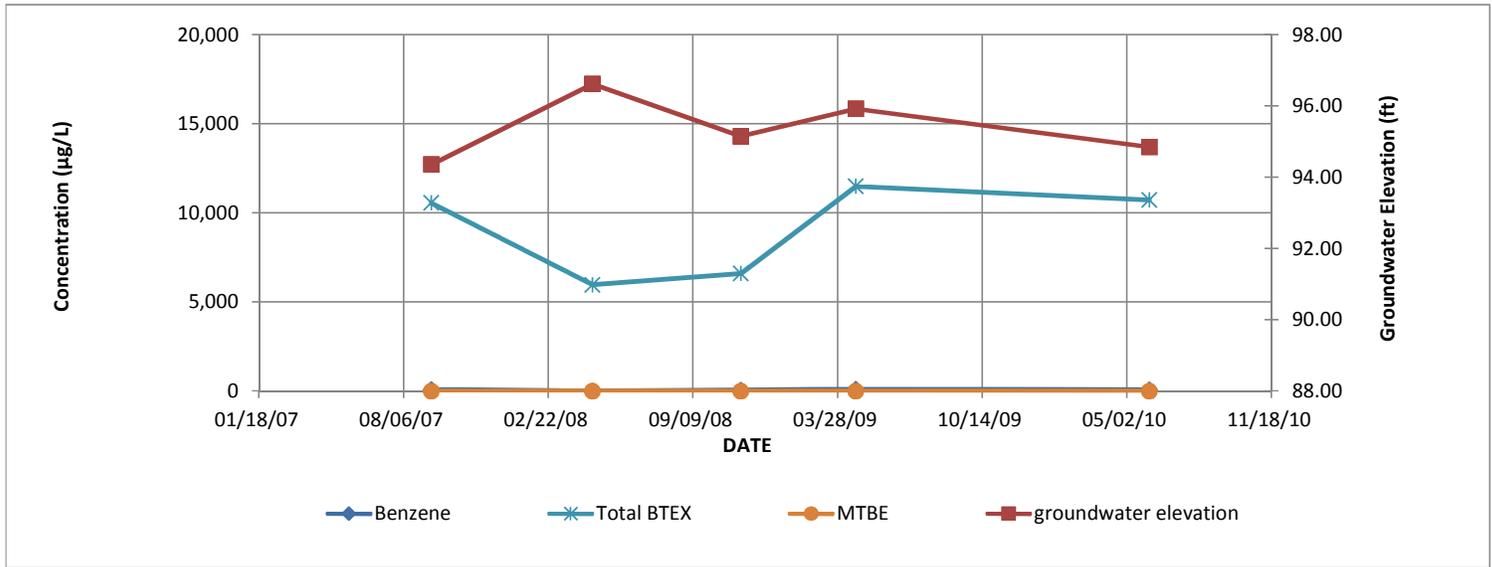
Shaded areas indicate VGES exceedances.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 29. MW- 37
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT

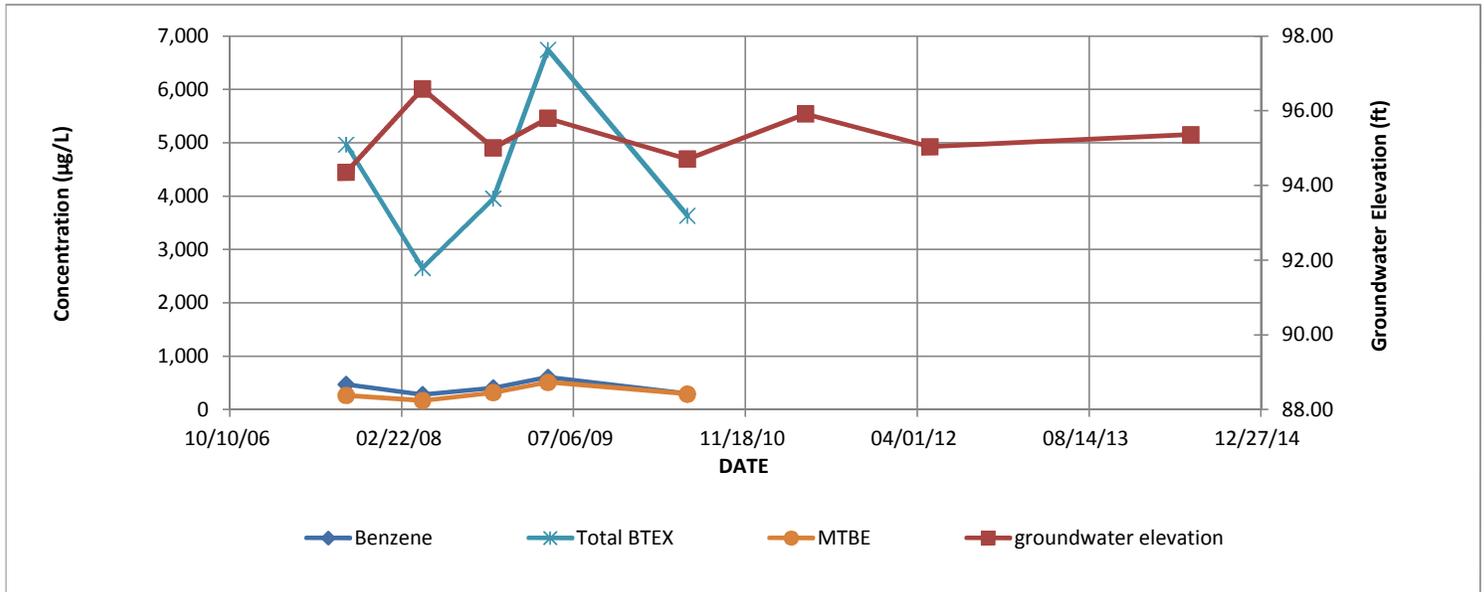


Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
09/13/07	90.0	128	1,850	8,488	10,556	BRL<50.0	2,730	770	NA	NA	94.36
04/23/08	BRL<50.0	50.5	1,020	4,889	5,960	BRL<50.0	1,878	276	BRL<50.0	BRL<50.0	96.62
11/14/08	53.8	62.8	1130	5351	6,598	BRL<25.0	1792	548	BRL<25.0	BRL<25.0	95.15
04/22/09	108	98.5	2,150	9,133	11,490	BRL<25.0	3,504	681	BRL<25.0	BRL<25.0	95.92
06/02/10	64.0	69.5	1,960	8,626	10,720	BRL<50.0	3,372	722	BRL<25.0	BRL<50.0	94.85
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:
 Concentrations in micrograms per liter (µg/L).
 MTBE - methyl tert-butyl ether
 TMBs - trimethyl benzenes
 BRL - Below Reporting Limit
 NS - Not Sampled
 Well could not be located on 2/14/06 and 2/22/07; likely due to snowpack
 VGES - Vermont Groundwater Enforcement Standards
 Shaded areas indicate VGES exceedances.
 EDB - 1,2-Dibromoethane
 DCA - Dichloroethane

**FIGURE 30. MW- 38
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
09/13/07	474.0	51.5	908	3,537	4,971	264.0	1,051	343	NA	NA	94.36
04/22/08	281	BRL<25.0	615	1,760	2,656	171	831	161	BRL<25.0	BRL<25.0	96.59
11/14/08	406	35.0	889	2624	3954	320	1168	319	BRL<25.0	BRL<25.0	95.01
04/22/09	608	37.2	1,510	4,590	6,745	512	1,592	379	BRL<25.0	BRL<25.0	95.80
06/02/10	298	BRL<50.0	834	2,500	3,632	292	1,071	201	BRL<25.0	BRL<50.0	94.71
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.92
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.04
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
06/05/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.36
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

Well could not be located on 2/14/06 and 2/22/07; likely due to snowpack

VGES - Vermont Groundwater Enforcement Standards

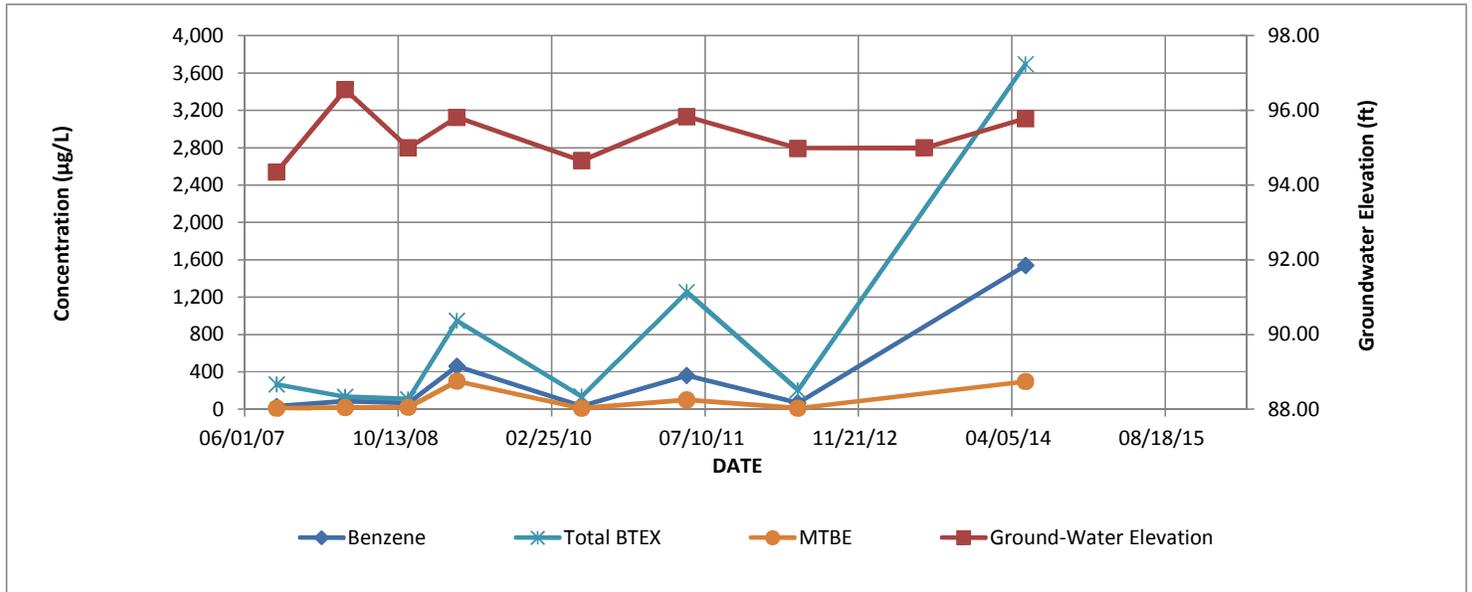
Shaded areas indicate VGES exceedances.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 31. MW- 39
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
09/13/07	30.3	3	57	176	266.0	10.9	70	33	NA	NA	94.36
04/23/08	86.0	BRL<1.0	15.4	33.8	135	18.2	31.0	13.2	BRL<1.0	BRL<1.0	96.56
11/14/08	67.1	BRL<1.0	10.9	31	109	22.7	25.7	6.6	BRL<1.0	BRL<1.0	95.00
04/22/09	460	8.6	120	359	948	300	254.3	46.8	BRL<5.0	BRL<5.0	95.82
06/02/10	35.5	BRL<5.0	30.8	71.8	138	11.8	46.6	12.1	BRL<2.5	BRL<5.0	94.66
05/11/11	362	9.0	212	672.8	1,255.8	101	752	131	BRL<2.5	BRL<5.0	95.84
05/07/12	69	BRL<5.0	49.9	88.1	207	12.5	180.6	33.6	BRL<2.5	BRL<5.0	94.99
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	95.00
05/19/14	1,540	31.8	462	1,661.8	3,696	298	864	135	BRL<12.5	BRL<25.0	95.79
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

Well could not be located on 2/14/06 and 2/22/07; likely due to snowpack

VGES - Vermont Groundwater Enforcement Standards

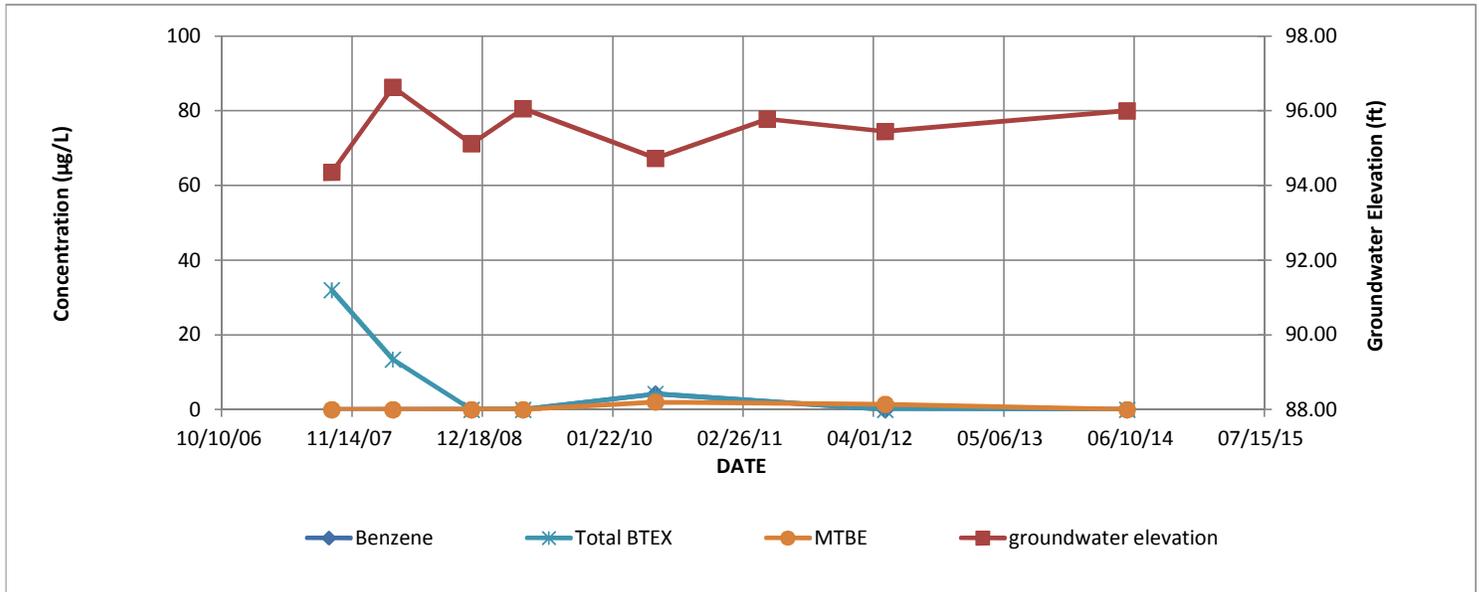
Shaded areas indicate VGES exceedances.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 32. MW- 40
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
09/13/07	BRL<1.0	BRL<1.0	5	27	32.0	BRL<1.0	124	25	NA	NA	94.36
03/18/08	BRL<1.0	BRL<1.0	2.0	11.4	13.4	BRL<1.0	80.9	25.2	BRL<1.0	BRL<1.0	96.63
11/14/08	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.12
04/22/09	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	15.1	3.5	BRL<1.0	BRL<1.0	96.06
06/02/10	4.2	BRL<1.0	BRL<1.0	BRL<3.0	4.2	2.0	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	94.73
05/11/11	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	95.78
05/07/12	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	1.4	BRL<2.0	1.6	BRL<0.5	BRL<1.0	95.45
06/24/13	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	96.00
05/19/14	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<2.0	BRL<0.5	BRL<1.0	96.50
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

Well could not be located on 2/14/06 and 2/22/07; likely due to snowpack

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

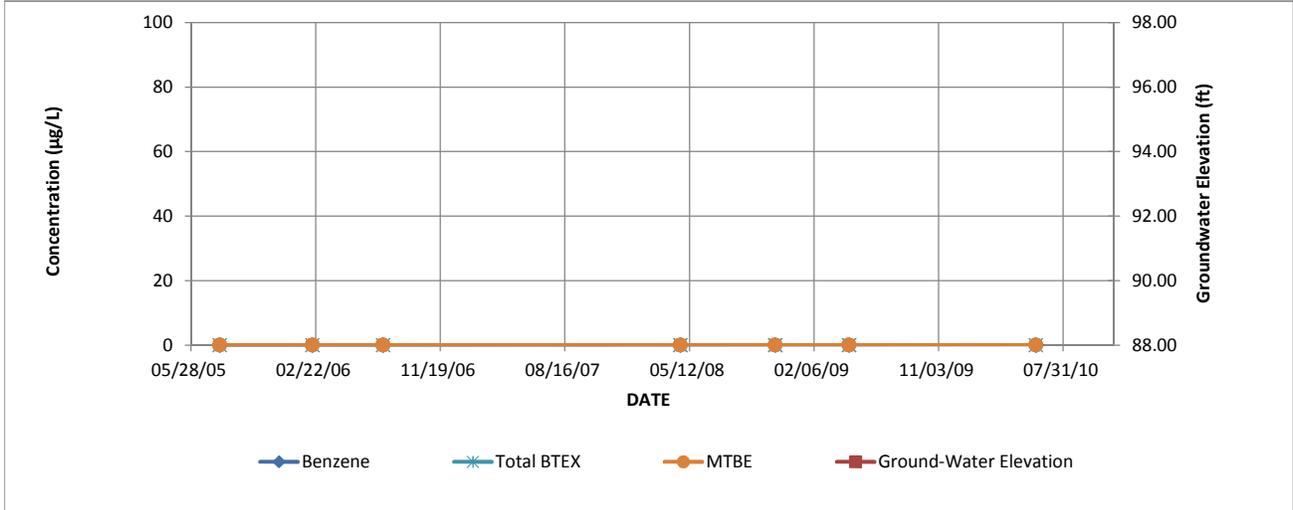
EDB - 1,2-Dibromoethane

DCA - Dichloroethane

LNAPL - Light non-aqueous phase liquid detected in well

**FIGURE 33. MW-101
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	-
02/15/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	-
07/18/06	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	NA	NA	-
04/22/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<2.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	-
11/14/08	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	-
04/23/09	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<1.0	BRL<1.0	-
06/02/10	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0	-
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
05/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

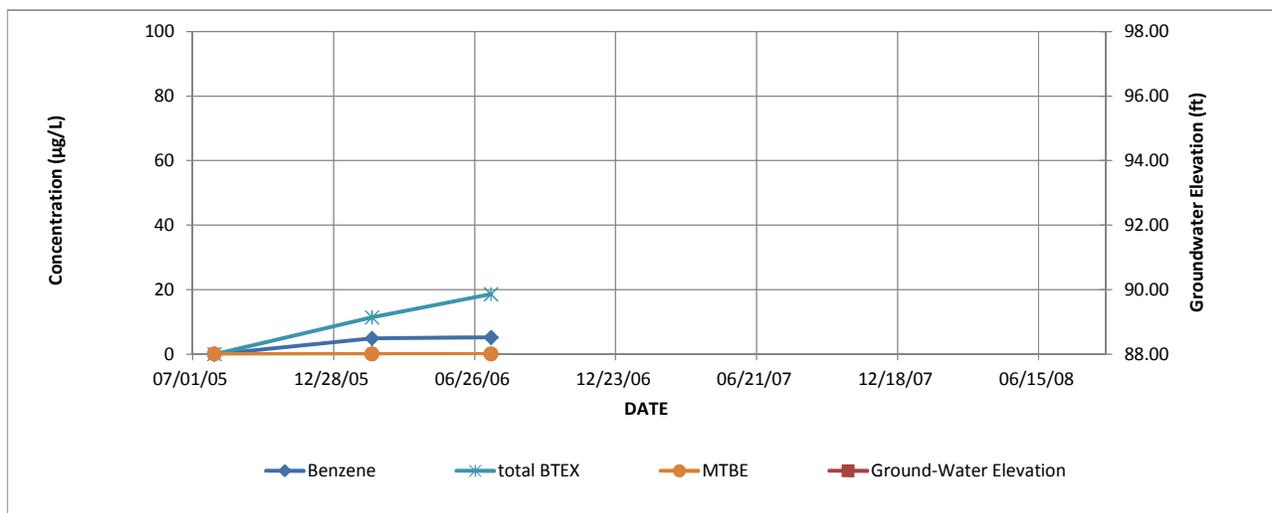
*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**FIGURE 34. MW-102
VOC Concentrations**

Northern Petroleum Bulk Storage Plant
St. Johnsbury, VT



Date	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	TMBs	Naphthalene	EDB	1,2 DCA	Ground-Water Elevation
07/29/05	NS	NS	NS	NS	NS	NS	NS	NS	NA	NA	-
02/15/06	4.9	BRL<1.0	BRL<1.0	6.5	11.4	BRL<1.0	3.5	1.1	NA	NA	-
07/17/06	5.2	1.2	BRL<1.0	13.4	18.6	BRL<1.0	22.0	8.1	NA	NA	-
05/11/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
05/07/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
06/24/13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
05/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
VGES	5	1,000	700	10,000	--	40	**350	20	0.05	5	--

Notes:

Concentrations in micrograms per liter (µg/L).

MTBE - methyl tert-butyl ether

TMBs - trimethyl benzenes

BRL - Below Reporting Limit

NS - Not Sampled

VGES - Vermont Groundwater Enforcement Standards

Shaded areas indicate VGES exceedances.

** Effective on 2/28/07, TMB enforcement standards increased to 350 µg/L total 1,2,4,TMB and 1,3,5,TMB

*Effective 05/03/07, EDB & 1,2 DCA were added to the list of chemicals analyzed for an 8021B VT Scan

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

TABLES

**Table 1.
Groundwater Elevations**

521 Bay Street
St. Johnsbury, VT

Monitoring Date: 19 May 2014

Well I.D.	Top of Casing Elevation	Depth to LNAPL	Depth to Water	LNAPL Thickness	Corrected Depth to Water	Water Table Elevation
MW-1	100.00	--	NM	--	--	--
MW-1R	-	--	NM	--	--	--
MW-2 (existing)	100.14	--	3.68	--	--	96.46
MW-4R	99.12	--	NM		--	--
MW-5	98.95	--	3.55	--	--	95.40
MW-7	100.50	--	4.81	--	--	95.69
MW-8	100.67	--	5.00	--	--	95.67
MW-12R	98.73	--	2.45	--	--	96.28
MW-13R	98.76	--	2.80	--	--	95.96
MW-16	99.56	--	NM	--	--	--
MW-17	99.83	--	NM	--	--	--
MW-18	99.96	--	NM	--	--	--
MW-19	100.05	--	NM	--	--	--
MW-22	99.95	--	NM	--	--	--
MW-28	102.09	--	NM	--	--	--
MW-29	99.63	--	NM	--	--	--
MW-30	100.01	--	NM	--	--	--
MW-31	99.95	--	NM	--	--	--
MW-36	98.72	--	NM	--	--	--
MW-37	99.67	--	NM	--	--	--
MW-38	100.06	--	NM	--	--	--
MW-39	99.74	--	3.95	--	--	95.79
MW-40	98.68	--	2.18	--	--	96.50
MW-101 (existing)	--	--	NM	--	--	--
MW-102	--	--	NM	--	--	--

Notes:

All values reported in feet relative to a datum of 100.00 ft.

NM - Not Measured

Corrected ground-water elevations were calculated by multiplying the LNAPL by the specific gravity of #2 fuel oil (0.9) and subtracting the result from the measured depth to water.

LNAPL - light non-aqueous phase liquid

**Table 2.
Groundwater Elevations**

521 Bay Street
St. Johnsbury, VT

Monitoring Date: 05 June 2014

Well I.D.	Top of Casing Elevation	Depth to LNAPL	Depth to Water	LNAPL Thickness	Corrected Depth to Water	Water Table Elevation
MW-1	100.00	--	NM	--	--	--
MW-1R	-	--	4.36	--	--	--
MW-2 (existing)	100.14	--	4.35	--	--	95.79
MW-4R	99.12	--	4.56	--	--	94.56
MW-5	98.95	--	4.18	--	--	94.77
MW-7	100.50	--	5.39	--	--	95.11
MW-8	100.67	--	5.56	--	--	95.11
MW-12R	98.73	--	3.23	--	--	95.50
MW-13R	98.76	--	3.43	--	--	95.33
MW-16	99.56	--	Destroyed	--	--	--
MW-17	99.83	4.08	6.36	2.28	4.31	95.52
MW-18	99.96	--	4.58	--	--	95.38
MW-19	100.05	--	4.24	--	--	95.81
MW-22	99.95	4.28	5.23	0.95	4.38	95.57
MW-28	102.09	--	NM	--	--	--
MW-29	99.63	--	4.31	--	--	95.32
MW-30	100.01	--	4.71	--	--	95.30
MW-31	99.95	--	NM	--	--	--
MW-36	98.72	--	3.34	--	--	95.38
MW-37	99.67	--	NM	--	--	--
MW-38	100.06	--	4.70	--	--	95.36
MW-39	99.74	--	4.50	--	--	95.24
MW-40	98.68	--	3.15	--	--	95.53
MW-101 (existing)	--	--	4.19	--	--	--
MW-102	--	--	4.19	--	--	--

Notes:

All values reported in feet relative to a datum of 100.00 ft.

NM - Not Measured

Corrected ground-water elevations were calculated by multiplying the LNAPL thickness by the specific gravity of #2 fuel oil (0.9) and subtracting the result from the measured depth to water.

LNAPL - light non-aqueous phase liquid

Table 3
Summary of Analytical Results

Northern Petroleum Bulk Plant
St. Johnsbury, Vermont

Monitoring Date: 19 May 2014

Well I.D.	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX	MTBE	Total TMB	Naphthalene	EDB	1,2 DCA
ONSITE MONITORING WELLS										
MW-5	20.2	BRL<1.0	BRL<1.0	BRL<3.0	20.2	42.8	1.8	BRL<1.0	BRL<0.5	BRL<1.0
MW-12R	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	2.1	BRL<1.0	BRL<0.5	BRL<1.0
MW-13R	18.2	BRL<5.0	60.6	73.1	151.9	56.6	84.6	31.8	BRL<2.5	BRL<5.0
MW-39	1,540	31.8	462	1,661.8	3,696	298	864	135	BRL<12.5	BRL<25.0
MW-40	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<2.0	BRL<0.5	BRL<1.0
OFFSITE MONITORING WELLS										
MW-2	4.4	1.2	4.3	16.7	26.6	BRL<1.0	4.9	1.4	BRL<0.5	BRL<1.0
MW-7	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<2.0	BRL<0.5	BRL<1.0
MW-8	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0
QAQC										
Duplicate (MW-12)	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	2.0	1.1	BRL<0.5	BRL<1.0
Trip Blank	BRL<1.0	BRL<1.0	BRL<1.0	BRL<3.0	BRL	BRL<1.0	BRL<2.0	BRL<1.0	BRL<0.5	BRL<1.0
VGES	5	1,000	700	10,000	--	40	350	20	0.05	5

Notes:

Results given in micrograms per liter (µg/L).

BTEX - a sum of benzene, toluene, ethylbenzene, and total xylenes

MTBE - methyl tertiary butyl ether

TMB - trimethyl benzene

BRL - Below Reporting Limit

VGES - Vermont Groundwater Enforcement Standards, shaded area denotes exceedence of VGES

All samples collected by ECS and analyzed by Spectrum Analytical, Inc.

EDB - 1,2-Dibromoethane

DCA - Dichloroethane

**Table 4.
LNAPL Product Thicknesses**

521 Bay Street
St. Johnsbury, VT

08-204262.00

Monitoring Date	MW-1	MW-5	MW-7	MW-12R*	MW-17	MW-18	MW-19	MW-22	MW-28	MW-40
7/29/2005	ND	ND	0.55	ND	~-0.04	ND	~-0.04	ND	NM	
10/19/2005	NM	NM	NM	NM	NM	NM	NM	NM	0.27	
2/14/2006	ND	ND	0.16	0.37	ND	ND	ND	0.28	0.45	
7/17/2006	ND	ND	0.13	0.20	ND	ND	ND	1.36	0.64	
2/22/2007	NM	ND	ND	~-0.08	NM	NM	NM	NM	NM	
9/12/2007	CNL	0.20	0.10	ND	CNL	0.09	ND	1.40	0.79	ND
12/19/2007	NM	0.02	ND	NM	NM	NM	NM	NM	NM	NM
4/22&23/2008	ND	0.04	0.03	ND	CNL	CNL	NM	1.45	0.14	ND
6/18/2008	NM	0.05	0.03	ND	NM	NM	NM	1.43	NM	ND
11/13/2008	0.03	0.05	ND	ND	1.65	NM	ND	1.56	0.08	0.04
4/9/2009	NM	ND	ND	ND	1.03	NM	NM	2.66	0.01	NM
4/22/2009	ND	0.03	ND	ND	0.65	0.13	ND	1.57	ND	ND
7/29/2009	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/11/2009	NM	0.14	NM	NM	NM	NM	NM	NM	0.60	NM
10/22/2009	NM	NM	NM	NM	NM	NM	NM	NM	0.80	NM
11/9/2009	NM	NM	NM	NM	NM	NM	NM	NM	0.30	NM
12/28/2009	NM	NM	NM	NM	NM	NM	NM	NM	0.05	NM
3/16/2010	NM	0.10	sheen	ND	0.39	ND	ND	1.44	sheen	ND
5/18/2010	NM	0.01	ND	ND	0.22	ND	NM	1.13	sheen	ND
6/2/2010	CNL	0.10	ND	ND	ND	ND	NM	NM	ND	ND
7/13/2010	CNL	0.05	ND	NM	CNL	CNL	ND	NM	0.20	ND
8/23/2010	CNL	0.04	0.01	NM	NM	CNL	NM	0.50	0.30	ND
9/27/2010	CNL	0.05	0.03	ND	0.11	0.30	ND	0.15	0.40	0.01
11/4/2010	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
12/16/2010	NM	NM	ND	NM	NM	NM	NM	NM	0.02	NM
3/29/2011	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
4/29/2011	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
5/11/2011	CNL	ND	ND	ND	0.70	0.08	ND	1.35	0.01	0.06
6/13/2011	CNL	ND	0.41	ND	0.85	0.01	ND	NM	ND	ND
7/15/2011	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/14/2011	NM	ND	0.01	NM	0.35	ND	ND	NM	ND	NM
12/16/2011	CNL	ND	0.01	ND	0.02	ND	0.01	NM	ND	NM
3/27/2012	CNL	ND	0.01	ND	0.03	CNL	ND	ND	CNL	ND
5/7/2012	CNL	ND	0.01	ND	ND	ND	ND	1.15	ND	ND
6/24/2013	CNL	ND	ND	ND	0.01	ND	NM	1.48	ND	0.02
6/5/2014	CNL	ND	ND	ND	2.28	ND	ND	0.95	NM	ND

Notes:

ND - LNAPL not detected in well.

NM - Not measured

CNL - Could not locate the well

*MW-12 replaced in August 2007 with MW-12R

LNAPL - light non-aqueous phase liquid

Table 5.
Total LNAPL Recovered (gallons)

521 Bay Street
St. Johnsbury, VT

08-204262.00

Monitoring Date	EX-1	EX-2	EX-3	EX-4	EX-5	MW-22	MW-17	Total LNAPL recovered (gallons)
12/19/2007	NM	NM	NM	ND	0.00	NM	--	0.00
4/23/2008	ND	ND	ND	1.00	0.03	0.09	--	1.12
6/18/2008	ND	ND	ND	1.00	0.13	0.08	--	1.21
7/16/2008	ND	0.00	ND	0.15	0.40	NM	--	0.55
8/27/2008	ND	ND	ND	0.01	0.01	NM	--	0.02
10/31/2008	ND	ND	ND	0.80	0.80	NM	--	1.60
11/13/2008	ND	0.01	ND	0.80	0.07	0.00	--	0.88
12/19/2008	ND	0.07	NM	0.00	0.53	NM	--	0.60
2/3/2009	NM	NM	NM	0.13	0.00	NM	--	0.13
2/24/2009	NM	NM	NM	0.01	NM	NM	--	0.01
3/20/2009	ND	0.00	ND	0.26	0.00	ND	--	0.26
4/9/2009	ND	ND	ND	0.25	ND	0.15	--	0.40
5/6/2009	ND	sheen	sheen	0.80	0.00	MN	--	0.80
6/29/2009	NM	NM	NM	0.40	0.01	NM	--	0.41
7/29/2009	0.00	0.00	0.00	0.10	0.00	NM	--	0.10
9/11/2009	ND	0.13	sheen	sheen	0.10	NM	--	0.23
10/22/2009	0.00	0.03	0.00	0.13	0.07	NM	--	0.23
11/9/2010	ND	0.00	ND	0.25	0.33	NM	--	0.58
12/28/2009	NM	0.00	NM	0.00	0.00	NM	--	0.00
3/17/2010	ND	ND	ND	NM	0.00	0.08	--	0.08
5/18/2010	ND	0.03	ND	0.03	0.40	0.00	--	0.46
6/2/2010	ND	0.00	ND	0.53	0.39	NM	--	0.92
7/13/2010	NM	0.00	ND	0.25	0.06	NM	--	0.31
8/23/2010	NM	0.01	NM	0.02	0.05	0.01	--	0.09
9/27/2010	NM	1.00	ND	0.50	0.00	0.00	--	1.50
11/4/2010	NM	ND	NM	ND	0.25	NM	--	0.25
12/16/2010	NM	NM	NM	NM	NM	NM	--	0.00
3/29/2011	NM	NM	NM	NM	NM	NM	--	0.00
4/29/2011	NM	0.05	NM	0.05	0.05	NM	--	0.15
5/11/2011	ND	0.05	NM	0.05	ND	0.00	--	0.10
6/13/2011	ND	ND	NM	0.00	0.00	NM	--	0.00
7/15/2011	NM	0.10	NM	0.05	0.05	NM	--	0.20
10/14/2011	NM	0.00	NM	0.00	0.10	NM	--	0.10
12/16/2011	NM	0.00	NM	0.00	0.01	NM	--	0.01
3/27/2012	0.00	0.05	CNL	0.10	0.10	NM	--	0.25
5/7/2012	ND	ND	ND	0.10	0.10	0.05	--	0.25
6/24/2013	ND	ND	NM	0.00	0.00	0.06	--	0.06
6/5/2014	ND	ND	ND	ND	ND	0.50	0.50	1.00

TOTAL 14.87

Notes:

ND - LNAPL product not detected in well.

NM - Not measured

LNAPL- light non-aqueous phase liquid

-- - data not recorded

APPENDIX A

LABORATORY ANALYTICAL REPORTS

Report Date:
02-Jun-14 11:29



- Final Report
- Re-Issued Report
- Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY
Laboratory Report

Environmental Compliance Services
1 Elm St. Suite 3
Waterbury, VT 05676
Attn: Elizabeth Erickson

Project: Northern Petroleum-St Johnsbury, VT
Project #: 08-204262.00

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB89865-01	Trip Blank	Aqueous	19-May-14 00:00	20-May-14 11:30
SB89865-02	Duplicate	Ground Water	19-May-14 00:00	20-May-14 11:30
SB89865-03	MW-2	Ground Water	19-May-14 12:35	20-May-14 11:30
SB89865-04	MW-5	Ground Water	19-May-14 11:34	20-May-14 11:30
SB89865-05	MW-7	Ground Water	19-May-14 12:49	20-May-14 11:30
SB89865-06	MW-8	Ground Water	19-May-14 13:07	20-May-14 11:30
SB89865-07	MW-12R	Ground Water	19-May-14 11:27	20-May-14 11:30
SB89865-08	MW-13R	Ground Water	19-May-14 11:30	20-May-14 11:30
SB89865-09	MW-40	Ground Water	19-May-14 11:37	20-May-14 11:30
SB89865-10	MW-39	Ground Water	19-May-14 11:49	20-May-14 11:30

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435



Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 23 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, NJ-MA012, PA-68-04426 and FL-E87936).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 4.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Calibration:

1405010

Analyte quantified by quadratic equation type calibration.

1,2-Dibromoethane (EDB)
Naphthalene

This affected the following samples:

1411815-BLK1
1411815-BS1
1411815-BSD1
1411815-MS1
1411815-MSD1
MW-2
S404702-ICV1
S405715-CCV1
Trip Blank

1405064

Analyte quantified by quadratic equation type calibration.

Naphthalene

This affected the following samples:

1412122-BLK1
1412122-BS1
1412122-BSD1
Duplicate
MW-2
MW-5
S405609-ICV1
S405860-CCV1

1405088

Analyte quantified by quadratic equation type calibration.

1,2-Dibromoethane (EDB)
Naphthalene

SW846 8260C

Calibration:

1405088

This affected the following samples:

1412124-BLK1
1412124-BS1
1412124-BSD1
1412124-MS1
1412124-MSD1
MW-12R
MW-13R
MW-39
MW-40
MW-7
MW-8
S405790-ICV1
S405853-CCV1

1405093

Analyte quantified by quadratic equation type calibration.

1,2-Dibromoethane (EDB)
Naphthalene

This affected the following samples:

1412265-BLK1
1412265-BS1
1412265-BSD1
MW-13R
S405877-ICV1
S405923-CCV1

Laboratory Control Samples:

1411815 BS

Methyl tert-butyl ether percent recovery 67 (70-130) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-2
Trip Blank

Spikes:

1411815-MS1 *Source: SB89865-03*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Methyl tert-butyl ether

1411815-MSD1 *Source: SB89865-03*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Methyl tert-butyl ether

1412124-MS1 *Source: SB89865-10*

SW846 8260C

Spikes:

1412124-MS1 *Source: SB89865-10*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Benzene
Ethylbenzene
m,p-Xylene

1412124-MSD1 *Source: SB89865-10*

RPD out of acceptance range.

1,2,4-Trimethylbenzene
Benzene
m,p-Xylene

Samples:

S405715-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Methyl tert-butyl ether (-33.0%)

This affected the following samples:

1411815-BLK1
1411815-BS1
1411815-BSD1
1411815-MS1
1411815-MSD1
MW-2
Trip Blank

S405853-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

m,p-Xylene (21.6%)
o-Xylene (20.2%)

This affected the following samples:

1412124-BLK1
1412124-BS1
1412124-BSD1
1412124-MS1
1412124-MSD1
MW-12R
MW-13R
MW-39
MW-40
MW-7
MW-8

SB89865-03 *MW-2*

Sample data reported for QC purposes only.

SB89865-08RE1 *MW-13R*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SB89865-10 *MW-39*

This laboratory report is not valid without an authorized signature on the cover page.

SW846 8260C

Samples:

SB89865-10

MW-39

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client: Environmental Compliance Services - Waterbury, VT
 Project: Northern Petroleum-St Johnsbury, VT / 08-204262.00
 Work Order: SB89865
 Sample(s) received on: 5/20/2014
 Received by: Mary Wilson

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
1. Were custody seals present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Were custody seals intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Were samples cooled on ice upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Were samples refrigerated upon transfer to laboratory representative?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sample Identification

Trip Blank
SB89865-01

Client Project #
08-204262.00

Matrix
Aqueous

Collection Date/Time
19-May-14 00:00

Received
20-May-14

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	SW846 8260C	23-May-14	24-May-14	NAA	1411815	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	96			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	99			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	106			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	100			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

Duplicate SB89865-02
 Client Project # 08-204262.00
 Matrix Ground Water
 Collection Date/Time 19-May-14 00:00
 Received 20-May-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
---------	------------	--------	------	-------	------	-----	----------	-------------	----------	----------	---------	-------	-------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	JEG	1412122	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	1.1		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	2.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	103			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	98			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	105			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	104			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

MW-2
SB89865-03

Client Project #
08-204262.00

Matrix
Ground Water

Collection Date/Time
19-May-14 12:35

Received
20-May-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
---------	------------	--------	------	-------	------	-----	----------	-------------	----------	----------	---------	-------	-------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

QCR

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	< 5.0	D	µg/l	5.0	1.6	5	SW846 8260C	23-May-14	24-May-14	NAA	1411815	
106-93-4	1,2-Dibromoethane (EDB)	< 2.5	D	µg/l	2.5	1.6	5	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 5.0	D	µg/l	5.0	1.5	5	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 5.0	D	µg/l	5.0	2.1	5	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 5.0	D	µg/l	5.0	1.8	5	"	"	"	"	"	"
91-20-3	Naphthalene	< 5.0	D	µg/l	5.0	2.7	5	"	"	"	"	"	"
108-88-3	Toluene	< 5.0	D	µg/l	5.0	1.4	5	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	< 5.0	D	µg/l	5.0	1.7	5	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 5.0	D	µg/l	5.0	2.0	5	"	"	"	"	"	"
179601-23-1	m,p-Xylene	10.6	D	µg/l	10.0	2.1	5	"	"	"	"	"	"
95-47-6	o-Xylene	< 5.0	D	µg/l	5.0	1.8	5	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	98			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	99			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	102			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	97			70-130 %			"	"	"	"	"	"

Re-analysis of Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	4.4		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	JEG	1412122	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	4.3		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	1.4		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	1.2		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	3.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	1.9		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	16.7		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	103			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	98			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	103			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	102			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

MW-5

SB89865-04

Client Project #

08-204262.00

Matrix

Ground Water

Collection Date/Time

19-May-14 11:34

Received

20-May-14

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>MDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Analyst</u>	<u>Batch</u>	<u>Cert.</u>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	20.2		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	JEG	1412122	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	42.8		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	1.8		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	101			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	98			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	104			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	103			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

MW-7

SB89865-05

Client Project #

08-204262.00

Matrix

Ground Water

Collection Date/Time

19-May-14 12:49

Received

20-May-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
---------	------------	--------	------	-------	------	-----	----------	-------------	----------	----------	---------	-------	-------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	NAA	1412124	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	101			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	98			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	106			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	101			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

MW-8

SB89865-06

Client Project #

08-204262.00

Matrix

Ground Water

Collection Date/Time

19-May-14 13:07

Received

20-May-14

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	NAA	1412124	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	101			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	98			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	105			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	97			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

MW-12R
SB89865-07

Client Project #
08-204262.00

Matrix
Ground Water

Collection Date/Time
19-May-14 11:27

Received
20-May-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
---------	------------	--------	------	-------	------	-----	----------	-------------	----------	----------	---------	-------	-------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	NAA	1412124	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	2.1		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	100			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	98			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	104			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	97			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

MW-13R
SB89865-08

Client Project #
08-204262.00

Matrix
Ground Water

Collection Date/Time
19-May-14 11:30

Received
20-May-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
---------	------------	--------	------	-------	------	-----	----------	-------------	----------	----------	---------	-------	-------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	21.0		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	NAA	1412124	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	95.1		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	63.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	23.4		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	3.6		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	120	E	µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	2.9		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	102	E	µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	15.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	104			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	105			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	95			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	70			70-130 %			"	"	"	"	"	"

Re-analysis of Volatile Organic Compounds by GC/MS

GS1

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	18.2	D	µg/l	5.0	1.6	5	SW846 8260C	29-May-14	29-May-14	NAA	1412265	
106-93-4	1,2-Dibromoethane (EDB)	< 2.5	D	µg/l	2.5	1.6	5	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 5.0	D	µg/l	5.0	1.5	5	"	"	"	"	"	"
100-41-4	Ethylbenzene	60.6	D	µg/l	5.0	2.1	5	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	56.6	D	µg/l	5.0	1.8	5	"	"	"	"	"	"
91-20-3	Naphthalene	31.8	D	µg/l	5.0	2.7	5	"	"	"	"	"	"
108-88-3	Toluene	< 5.0	D	µg/l	5.0	1.4	5	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	84.6	D	µg/l	5.0	1.7	5	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 5.0	D	µg/l	5.0	2.0	5	"	"	"	"	"	"
179601-23-1	m,p-Xylene	64.6	D	µg/l	10.0	2.1	5	"	"	"	"	"	"
95-47-6	o-Xylene	8.5	D	µg/l	5.0	1.8	5	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	95			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	106			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	100			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	100			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample IdentificationMW-40
SB89865-09Client Project #
08-204262.00Matrix
Ground WaterCollection Date/Time
19-May-14 11:37Received
20-May-14

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	SW846 8260C	28-May-14	29-May-14	NAA	1412124	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	"
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	"
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	102			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	97			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	106			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	101			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Sample IdentificationMW-39
SB89865-10Client Project #
08-204262.00Matrix
Ground WaterCollection Date/Time
19-May-14 11:49Received
20-May-14

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>MDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Analyst</u>	<u>Batch</u>	<u>Cert.</u>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

Volatile Organic Compounds

Volatile Organic Compounds by GC/MS

GS1

Prepared by method SW846 5030 Water MS

71-43-2	Benzene	1,540	D	µg/l	25.0	7.9	25	SW846 8260C	28-May-14	29-May-14	NAA	1412124	
106-93-4	1,2-Dibromoethane (EDB)	< 12.5	D	µg/l	12.5	8.0	25	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 25.0	D	µg/l	25.0	7.6	25	"	"	"	"	"	"
100-41-4	Ethylbenzene	462	D	µg/l	25.0	10.4	25	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	298	D	µg/l	25.0	9.2	25	"	"	"	"	"	"
91-20-3	Naphthalene	135	D	µg/l	25.0	13.4	25	"	"	"	"	"	"
108-88-3	Toluene	31.8	D	µg/l	25.0	7.0	25	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	674	D	µg/l	25.0	8.3	25	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	190	D	µg/l	25.0	9.8	25	"	"	"	"	"	"
179601-23-1	m,p-Xylene	1,620	D	µg/l	50.0	10.4	25	"	"	"	"	"	"
95-47-6	o-Xylene	41.8	D	µg/l	25.0	8.9	25	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	105			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	98			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	103			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	96			70-130 %			"	"	"	"	"	"

This laboratory report is not valid without an authorized signature on the cover page.

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1411815 - SW846 5030 Water MS										
Blank (1411815-BLK1)					<u>Prepared & Analyzed: 23-May-14</u>					
Benzene	< 1.0		µg/l	1.0						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
Ethylbenzene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
Naphthalene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
<i>Surrogate: 4-Bromofluorobenzene</i>	48.2		µg/l		50.0		96	70-130		
<i>Surrogate: Toluene-d8</i>	48.9		µg/l		50.0		98	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	51.9		µg/l		50.0		104	70-130		
<i>Surrogate: Dibromofluoromethane</i>	50.1		µg/l		50.0		100	70-130		
LCS (1411815-BS1)					<u>Prepared & Analyzed: 23-May-14</u>					
Benzene	22.5		µg/l		20.0		112	70-130		
1,2-Dibromoethane (EDB)	19.8		µg/l		20.0		99	70-130		
1,2-Dichloroethane	21.9		µg/l		20.0		110	70-130		
Ethylbenzene	22.7		µg/l		20.0		113	70-130		
Methyl tert-butyl ether	13.4	QM9	µg/l		20.0		67	70-130		
Naphthalene	20.4		µg/l		20.0		102	70-130		
Toluene	21.7		µg/l		20.0		109	70-130		
1,2,4-Trimethylbenzene	19.8		µg/l		20.0		99	70-130		
1,3,5-Trimethylbenzene	19.8		µg/l		20.0		99	70-130		
m,p-Xylene	22.6		µg/l		20.0		113	70-130		
o-Xylene	22.9		µg/l		20.0		115	70-130		
<i>Surrogate: 4-Bromofluorobenzene</i>	52.2		µg/l		50.0		104	70-130		
<i>Surrogate: Toluene-d8</i>	50.3		µg/l		50.0		101	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	49.2		µg/l		50.0		98	70-130		
<i>Surrogate: Dibromofluoromethane</i>	50.6		µg/l		50.0		101	70-130		
LCS Dup (1411815-BSD1)					<u>Prepared & Analyzed: 23-May-14</u>					
Benzene	23.6		µg/l		20.0		118	70-130	5	20
1,2-Dibromoethane (EDB)	21.2		µg/l		20.0		106	70-130	7	20
1,2-Dichloroethane	23.4		µg/l		20.0		117	70-130	6	20
Ethylbenzene	22.9		µg/l		20.0		114	70-130	0.9	20
Methyl tert-butyl ether	14.4		µg/l		20.0		72	70-130	7	20
Naphthalene	21.7		µg/l		20.0		108	70-130	6	20
Toluene	22.6		µg/l		20.0		113	70-130	4	20
1,2,4-Trimethylbenzene	20.1		µg/l		20.0		101	70-130	1	20
1,3,5-Trimethylbenzene	20.0		µg/l		20.0		100	70-130	0.7	20
m,p-Xylene	23.0		µg/l		20.0		115	70-130	2	20
o-Xylene	23.7		µg/l		20.0		119	70-130	3	20
<i>Surrogate: 4-Bromofluorobenzene</i>	51.9		µg/l		50.0		104	70-130		
<i>Surrogate: Toluene-d8</i>	50.1		µg/l		50.0		100	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	48.3		µg/l		50.0		97	70-130		
<i>Surrogate: Dibromofluoromethane</i>	50.2		µg/l		50.0		100	70-130		
Matrix Spike (1411815-MS1)					<u>Prepared & Analyzed: 23-May-14</u>					
Benzene	24.7	D	µg/l		20.0	0.6	121	70-130		
1,2-Dibromoethane (EDB)	20.4	D	µg/l		20.0	BRL	102	70-130		

This laboratory report is not valid without an authorized signature on the cover page.

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1411815 - SW846 5030 Water MS										
Matrix Spike (1411815-MS1)			Source: SB89865-03			Prepared & Analyzed: 23-May-14				
1,2-Dichloroethane	22.4	D	µg/l		20.0	BRL	112	70-130		
Ethylbenzene	24.5	D	µg/l		20.0	0.7	119	70-130		
Methyl tert-butyl ether	13.3	QM7, D	µg/l		20.0	BRL	66	70-130		
Naphthalene	21.5	D	µg/l		20.0	0.4	105	70-130		
Toluene	23.0	D	µg/l		20.0	0.2	114	70-130		
1,2,4-Trimethylbenzene	20.8	D	µg/l		20.0	0.7	100	70-130		
1,3,5-Trimethylbenzene	21.0	D	µg/l		20.0	0.6	102	70-130		
m,p-Xylene	26.6	D	µg/l		20.0	2.1	122	70-130		
o-Xylene	23.7	D	µg/l		20.0	BRL	119	70-130		
<hr/>										
Surrogate: 4-Bromofluorobenzene	51.4		µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	50.3		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	48.6		µg/l		50.0		97	70-130		
Surrogate: Dibromofluoromethane	50.3		µg/l		50.0		101	70-130		
Matrix Spike Dup (1411815-MSD1)			Source: SB89865-03			Prepared & Analyzed: 23-May-14				
Benzene	24.6	D	µg/l		20.0	0.6	120	70-130	0.2	20
1,2-Dibromoethane (EDB)	20.3	D	µg/l		20.0	BRL	102	70-130	0.7	20
1,2-Dichloroethane	22.2	D	µg/l		20.0	BRL	111	70-130	1	20
Ethylbenzene	24.5	D	µg/l		20.0	0.7	119	70-130	0.2	20
Methyl tert-butyl ether	13.3	QM7, D	µg/l		20.0	BRL	67	70-130	0.2	20
Naphthalene	20.8	D	µg/l		20.0	0.4	102	70-130	4	20
Toluene	23.2	D	µg/l		20.0	0.2	115	70-130	0.9	20
1,2,4-Trimethylbenzene	21.0	D	µg/l		20.0	0.7	101	70-130	0.7	20
1,3,5-Trimethylbenzene	20.8	D	µg/l		20.0	0.6	101	70-130	0.7	20
m,p-Xylene	26.4	D	µg/l		20.0	2.1	122	70-130	0.7	20
o-Xylene	23.7	D	µg/l		20.0	BRL	118	70-130	0.2	20
<hr/>										
Surrogate: 4-Bromofluorobenzene	52.1		µg/l		50.0		104	70-130		
Surrogate: Toluene-d8	50.6		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	48.4		µg/l		50.0		97	70-130		
Surrogate: Dibromofluoromethane	50.0		µg/l		50.0		100	70-130		
<hr/>										
Batch 1412122 - SW846 5030 Water MS										
Blank (1412122-BLK1)			Prepared & Analyzed: 28-May-14							
Benzene	< 1.0		µg/l	1.0						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
Ethylbenzene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
Naphthalene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
<hr/>										
Surrogate: 4-Bromofluorobenzene	50.0		µg/l		50.0		100	70-130		
Surrogate: Toluene-d8	50.1		µg/l		50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4	53.7		µg/l		50.0		107	70-130		
Surrogate: Dibromofluoromethane	54.0		µg/l		50.0		108	70-130		
LCS (1412122-BS1)			Prepared & Analyzed: 28-May-14							
Benzene	19.2		µg/l		20.0		96	70-130		
1,2-Dibromoethane (EDB)	21.0		µg/l		20.0		105	70-130		
1,2-Dichloroethane	20.9		µg/l		20.0		104	70-130		

This laboratory report is not valid without an authorized signature on the cover page.

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1412122 - SW846 5030 Water MS										
LCS (1412122-BS1)					<u>Prepared & Analyzed: 28-May-14</u>					
Ethylbenzene	20.6		µg/l		20.0		103	70-130		
Methyl tert-butyl ether	21.3		µg/l		20.0		106	70-130		
Naphthalene	17.4		µg/l		20.0		87	70-130		
Toluene	19.4		µg/l		20.0		97	70-130		
1,2,4-Trimethylbenzene	21.6		µg/l		20.0		108	70-130		
1,3,5-Trimethylbenzene	21.6		µg/l		20.0		108	70-130		
m,p-Xylene	20.8		µg/l		20.0		104	70-130		
o-Xylene	21.1		µg/l		20.0		106	70-130		
<hr/>										
Surrogate: 4-Bromofluorobenzene	51.9		µg/l		50.0		104	70-130		
Surrogate: Toluene-d8	49.9		µg/l		50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4	53.1		µg/l		50.0		106	70-130		
Surrogate: Dibromofluoromethane	53.0		µg/l		50.0		106	70-130		
LCS Dup (1412122-BSD1)					<u>Prepared & Analyzed: 28-May-14</u>					
Benzene	20.8		µg/l		20.0		104	70-130	8	20
1,2-Dibromoethane (EDB)	21.6		µg/l		20.0		108	70-130	3	20
1,2-Dichloroethane	21.6		µg/l		20.0		108	70-130	4	20
Ethylbenzene	21.9		µg/l		20.0		110	70-130	6	20
Methyl tert-butyl ether	20.1		µg/l		20.0		100	70-130	6	20
Naphthalene	19.1		µg/l		20.0		95	70-130	9	20
Toluene	20.7		µg/l		20.0		104	70-130	7	20
1,2,4-Trimethylbenzene	23.1		µg/l		20.0		115	70-130	6	20
1,3,5-Trimethylbenzene	23.1		µg/l		20.0		115	70-130	7	20
m,p-Xylene	22.1		µg/l		20.0		110	70-130	6	20
o-Xylene	22.5		µg/l		20.0		112	70-130	6	20
<hr/>										
Surrogate: 4-Bromofluorobenzene	51.2		µg/l		50.0		102	70-130		
Surrogate: Toluene-d8	49.4		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	52.5		µg/l		50.0		105	70-130		
Surrogate: Dibromofluoromethane	52.9		µg/l		50.0		106	70-130		
<hr/>										
Batch 1412124 - SW846 5030 Water MS										
Blank (1412124-BLK1)					<u>Prepared & Analyzed: 28-May-14</u>					
Benzene	< 1.0		µg/l	1.0						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
Ethylbenzene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
Naphthalene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
<hr/>										
Surrogate: 4-Bromofluorobenzene	47.7		µg/l		50.0		95	70-130		
Surrogate: Toluene-d8	52.1		µg/l		50.0		104	70-130		
Surrogate: 1,2-Dichloroethane-d4	52.9		µg/l		50.0		106	70-130		
Surrogate: Dibromofluoromethane	48.6		µg/l		50.0		97	70-130		
LCS (1412124-BS1)					<u>Prepared & Analyzed: 28-May-14</u>					
Benzene	21.2		µg/l		20.0		106	70-130		
1,2-Dibromoethane (EDB)	22.4		µg/l		20.0		112	70-130		
1,2-Dichloroethane	20.4		µg/l		20.0		102	70-130		
Ethylbenzene	23.3		µg/l		20.0		116	70-130		

This laboratory report is not valid without an authorized signature on the cover page.

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1412124 - SW846 5030 Water MS										
LCS (1412124-BS1)					<u>Prepared & Analyzed: 28-May-14</u>					
Methyl tert-butyl ether	20.1		µg/l		20.0		100	70-130		
Naphthalene	20.6		µg/l		20.0		103	70-130		
Toluene	21.0		µg/l		20.0		105	70-130		
1,2,4-Trimethylbenzene	21.0		µg/l		20.0		105	70-130		
1,3,5-Trimethylbenzene	20.8		µg/l		20.0		104	70-130		
m,p-Xylene	24.3		µg/l		20.0		121	70-130		
o-Xylene	24.1		µg/l		20.0		121	70-130		
Surrogate: 4-Bromofluorobenzene	51.6		µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	49.7		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	50.0		µg/l		50.0		100	70-130		
Surrogate: Dibromofluoromethane	50.8		µg/l		50.0		102	70-130		
LCS Dup (1412124-BSD1)					<u>Prepared & Analyzed: 28-May-14</u>					
Benzene	20.0		µg/l		20.0		100	70-130	6	20
1,2-Dibromoethane (EDB)	20.8		µg/l		20.0		104	70-130	7	20
1,2-Dichloroethane	19.2		µg/l		20.0		96	70-130	6	20
Ethylbenzene	21.8		µg/l		20.0		109	70-130	7	20
Methyl tert-butyl ether	19.4		µg/l		20.0		97	70-130	3	20
Naphthalene	19.6		µg/l		20.0		98	70-130	5	20
Toluene	20.0		µg/l		20.0		100	70-130	5	20
1,2,4-Trimethylbenzene	19.6		µg/l		20.0		98	70-130	7	20
1,3,5-Trimethylbenzene	19.6		µg/l		20.0		98	70-130	6	20
m,p-Xylene	22.7		µg/l		20.0		114	70-130	7	20
o-Xylene	22.6		µg/l		20.0		113	70-130	7	20
Surrogate: 4-Bromofluorobenzene	51.6		µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	50.1		µg/l		50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4	49.8		µg/l		50.0		100	70-130		
Surrogate: Dibromofluoromethane	51.0		µg/l		50.0		102	70-130		
Matrix Spike (1412124-MS1)					Source: SB89865-10		<u>Prepared & Analyzed: 28-May-14</u>			
Benzene	90.4	QM7, D	µg/l		20.0	61.6	144	70-130		
1,2-Dibromoethane (EDB)	23.2	D	µg/l		20.0	BRL	116	70-130		
1,2-Dichloroethane	21.3	D	µg/l		20.0	BRL	106	70-130		
Ethylbenzene	45.1	QM7, D	µg/l		20.0	18.5	133	70-130		
Methyl tert-butyl ether	36.0	D	µg/l		20.0	11.9	120	70-130		
Naphthalene	28.9	D	µg/l		20.0	5.4	117	70-130		
Toluene	23.9	D	µg/l		20.0	1.3	113	70-130		
1,2,4-Trimethylbenzene	51.1	D	µg/l		20.0	27.0	121	70-130		
1,3,5-Trimethylbenzene	30.4	D	µg/l		20.0	7.6	114	70-130		
m,p-Xylene	94.3	QM7, D	µg/l		20.0	64.9	147	70-130		
o-Xylene	27.7	D	µg/l		20.0	1.7	130	70-130		
Surrogate: 4-Bromofluorobenzene	50.6		µg/l		50.0		101	70-130		
Surrogate: Toluene-d8	49.8		µg/l		50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4	49.9		µg/l		50.0		100	70-130		
Surrogate: Dibromofluoromethane	50.3		µg/l		50.0		101	70-130		
Matrix Spike Dup (1412124-MSD1)					Source: SB89865-10		<u>Prepared & Analyzed: 28-May-14</u>			
Benzene	79.2	QR5, D	µg/l		20.0	61.6	88	70-130	48	20
1,2-Dibromoethane (EDB)	21.8	D	µg/l		20.0	BRL	109	70-130	6	20
1,2-Dichloroethane	19.8	D	µg/l		20.0	BRL	99	70-130	7	20
Ethylbenzene	40.3	D	µg/l		20.0	18.5	109	70-130	20	20
Methyl tert-butyl ether	32.0	D	µg/l		20.0	11.9	100	70-130	18	20
Naphthalene	27.0	D	µg/l		20.0	5.4	108	70-130	8	20

This laboratory report is not valid without an authorized signature on the cover page.

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1412124 - SW846 5030 Water MS										
<u>Matrix Spike Dup (1412124-MSD1)</u>			<u>Source: SB89865-10</u>			<u>Prepared & Analyzed: 28-May-14</u>				
Toluene	21.7	D	µg/l		20.0	1.3	102	70-130	10	20
1,2,4-Trimethylbenzene	45.6	QR5, D	µg/l		20.0	27.0	93	70-130	26	20
1,3,5-Trimethylbenzene	27.7	D	µg/l		20.0	7.6	100	70-130	13	20
m,p-Xylene	83.6	QR5, D	µg/l		20.0	64.9	93	70-130	45	20
o-Xylene	24.7	D	µg/l		20.0	1.7	115	70-130	12	20
<hr/>										
Surrogate: 4-Bromofluorobenzene	50.6		µg/l		50.0		101	70-130		
Surrogate: Toluene-d8	49.7		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	49.8		µg/l		50.0		100	70-130		
Surrogate: Dibromofluoromethane	50.1		µg/l		50.0		100	70-130		
<hr/>										
Batch 1412265 - SW846 5030 Water MS										
<u>Blank (1412265-BLK1)</u>			<u>Prepared & Analyzed: 29-May-14</u>							
Benzene	< 1.0		µg/l	1.0						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
Ethylbenzene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
Naphthalene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
<hr/>										
Surrogate: 4-Bromofluorobenzene	44.9		µg/l		50.0		90	70-130		
Surrogate: Toluene-d8	49.8		µg/l		50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4	51.0		µg/l		50.0		102	70-130		
Surrogate: Dibromofluoromethane	49.8		µg/l		50.0		100	70-130		
<hr/>										
<u>LCS (1412265-BS1)</u>			<u>Prepared & Analyzed: 29-May-14</u>							
Benzene	20.7		µg/l		20.0		104	70-130		
1,2-Dibromoethane (EDB)	21.0		µg/l		20.0		105	70-130		
1,2-Dichloroethane	20.4		µg/l		20.0		102	70-130		
Ethylbenzene	18.5		µg/l		20.0		93	70-130		
Methyl tert-butyl ether	22.0		µg/l		20.0		110	70-130		
Naphthalene	18.9		µg/l		20.0		95	70-130		
Toluene	21.6		µg/l		20.0		108	70-130		
1,2,4-Trimethylbenzene	18.8		µg/l		20.0		94	70-130		
1,3,5-Trimethylbenzene	18.4		µg/l		20.0		92	70-130		
m,p-Xylene	18.8		µg/l		20.0		94	70-130		
o-Xylene	20.3		µg/l		20.0		101	70-130		
<hr/>										
Surrogate: 4-Bromofluorobenzene	52.2		µg/l		50.0		104	70-130		
Surrogate: Toluene-d8	51.0		µg/l		50.0		102	70-130		
Surrogate: 1,2-Dichloroethane-d4	50.1		µg/l		50.0		100	70-130		
Surrogate: Dibromofluoromethane	50.5		µg/l		50.0		101	70-130		
<hr/>										
<u>LCS Dup (1412265-BSD1)</u>			<u>Prepared & Analyzed: 29-May-14</u>							
Benzene	19.5		µg/l		20.0		98	70-130	6	20
1,2-Dibromoethane (EDB)	20.8		µg/l		20.0		104	70-130	1	20
1,2-Dichloroethane	19.3		µg/l		20.0		97	70-130	6	20
Ethylbenzene	17.0		µg/l		20.0		85	70-130	8	20
Methyl tert-butyl ether	21.1		µg/l		20.0		106	70-130	4	20
Naphthalene	18.8		µg/l		20.0		94	70-130	0.5	20
Toluene	20.9		µg/l		20.0		104	70-130	3	20

This laboratory report is not valid without an authorized signature on the cover page.

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1412265 - SW846 5030 Water MS										
<u>LCS Dup (1412265-BSD1)</u>					<u>Prepared & Analyzed: 29-May-14</u>					
1,2,4-Trimethylbenzene	17.4		µg/l		20.0		87	70-130	8	20
1,3,5-Trimethylbenzene	17.0		µg/l		20.0		85	70-130	8	20
m,p-Xylene	17.4		µg/l		20.0		87	70-130	8	20
o-Xylene	18.9		µg/l		20.0		94	70-130	7	20
Surrogate: 4-Bromofluorobenzene	51.4		µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	53.0		µg/l		50.0		106	70-130		
Surrogate: 1,2-Dichloroethane-d4	49.4		µg/l		50.0		99	70-130		
Surrogate: Dibromofluoromethane	49.7		µg/l		50.0		99	70-130		

This laboratory report is not valid without an authorized signature on the cover page.

Notes and Definitions

D	Data reported from a dilution
E	This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QCR	Sample data reported for QC purposes only.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR5	RPD out of acceptance range.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

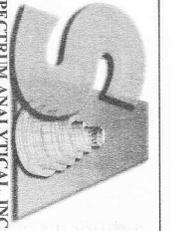
Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Nicole Leja



SPECTRUM ANALYTICAL, INC.
Featuring
HANBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- Standard TAT - 7 to 10 business days
- Rush TAT - Date Needed: _____

All TATs subject to laboratory approval.
Min. 24-hr notification needed for rushes.
Samples disposed after 60 days unless otherwise instructed.

SB89865 SKH

Report To: ECS Invoice To: _____ Project No: 08-204262,00

1 Elm St WATERBURY, VT 05676 Site Name: NORTHERN PETROLEUM

Telephone #: 241-4131 Project Mgr: BETH GRACEY P.O. No.: _____ Location: ST. JOHNSBURY State: VT

Quote/RO#: PCF STEEL F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid

7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₂PO₄ 11= _____ 12= _____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= _____ X2= _____ X3= _____
G=Grab C=Composite

Lab ID: _____ Sample ID: _____ Date: _____ Time: _____ Type _____ Matrix _____

Containers: # of VOA Vials _____ # of Amber Glass _____ # of Clear Glass _____ # of Plastic _____

Analysis: 80218 VT

List Preservative Code below: 2

QA/QC Reporting Notes: * additional changes may apply

MA DEP MCP CAM Report? Yes No
CT DPH RCP Report? Standard No QC

Other: ASP A* ASP B* NJ Reduced* NJ Full* Tier II* Tier IV*
State-specific reporting standards: _____

Temp °C: 5.4 Observed 5.4 Correction Factor -1

Condition upon receipt: Ambient Cold Refrigerated DI VOA Frozen Soil Jar Frozen

Retinquished by: _____ Received by: _____ Date: _____ Time: _____

Lab ID	Sample ID	Date	Time	Temp °C	Observed	Correction Factor	Condition upon receipt	Custody Seals	Present	Intact	Broken
SB89865	TRIP BLANK	5/19/14	---	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02	Duplicate	---	---	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03	MW-2	---	1235	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04	MW-5	---	1134	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05	MW-7	---	1249	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06	MW-8	---	1307	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
07	MW-12R	---	1127	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
08	MW-13R	---	1130	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
09	MW-40	---	1137	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	MW-39	---	1149	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PK	PK	5/19/14	1530	---	---	---	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FedEx #770022101910145	Mary O'Milroy	5/19/14	17:00	---	---	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

From: (802) 241-4131
Amy Beth Connell
ECS
1 Elm St
Suite 3
Waterbury, VT 05676

Origin ID: MVLA

FedEx
Express



J14101402070326

Ship Date: 19MAY14
ActWgt: 26.0 LB
CAD: 103826659/NET3490

Delivery Address Bar Code



Ref #
Invoice #
PO #
Dept #

SHIP TO: (413) 739-9018

BILL RECIPIENT

Laboratory
Spectrum Analytical
11 ALMGREN DR

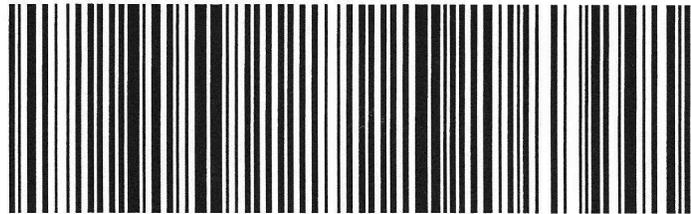
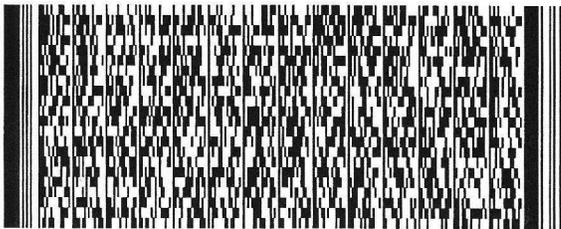
AGAWAM, MA 01001

TUE - 20 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 7700 2669 6145
0201

EB EHTA

01001
MA-US
BDL



522G162D3F220

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.